



## SEQUENCE LISTING

<110> Abbott Laboratories  
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<120> NOVEL ANTIGEN CONSTRUCTS USEFUL IN THE  
DETECTION AND DIFFERENTIATION OF ANTIBODIES TO HIV

<130> 6165.US.O1

<140> US 08/911,824

<141> 1997-08-15

<160> 121

<170> FastSEQ for Windows Version 3.0

<210> 1

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<212> DNA

<213> Human Immunodeficiency Virus

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<223> Sequencing Primer 43285

<400> 1

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19

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<212> DNA

<213> Human Immunodeficiency Virus

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<223> Sequencing Primer 43461

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<213> Human Immunodeficiency Virus

<220>

<223> Synthetic oligonucleotide (Osyn-A) for PCR

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114

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 <213> Human Immunodeficiency Virus  
  
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 <223> Synthetic oligonucleotide (Osyn-F) for PCR  
  
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 gtccattcc tgccagggtca ggttaccca gatctggttg atgttggtgg tgttacg 117  
  
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 <220>  
 <223> Synthetic oligonucleotide (Osyn-G) for PCR

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<220>  
 <223> HIV-1 Group O PCR Primer Osyn-5' (outside)

<400> 11  
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 <212> DNA  
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<220>  
 <223> Synthetic oligonucleotide (Osyn-K) for PCR

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<210> 13  
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 <212> DNA  
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<220>

<223> Synthetic oligonucleotide (Osyn-L) for PCR

<400> 13  
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gtcgtcagtc cagtttagcaa ctgcaacagc gaaggtgtcg atcagggagg tagc 114

<210> 14  
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<212> DNA  
<213> Human Immunodeficiency Virus

<220>  
<223> HIV-1 Group O PCR Primer Osyn-M (antisense)

<400> 14  
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<210> 15  
<211> 43  
<212> DNA  
<213> Human Immunodeficiency Virus

<220>  
<223> HIV-1 Group O PCR Primer Osyn-O3' (antisense)

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<210> 16  
<211> 38  
<212> DNA  
<213> Human Immunodeficiency Virus

<220>  
<223> HIV-1 Group O PCR Primer Osyn-P3' (antisense)

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<210> 17  
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<220>  
<223> Synthetic oligonucleotide (Osyn-B) for PCR

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<220>

<223> Synthetic oligonucleotide (Osyn-J) for PCR

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<210> 19  
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<220>  
<223> Sequencing Primer CKS 176.1

<400> 19  
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<210> 20  
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<220>  
<223> Sequencing Primer CKS3583

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<210> 21  
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<212> DNA  
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<220>  
<223> PCR Primer IM-6F (Forward)

<400> 21  
ccgctacctc cctgatcgac accttc 26

<210> 22  
<211> 26  
<212> DNA  
<213> Human Immunodeficiency Virus

<220>  
<223> PCR Primer IM-6R (Reverse)

<400> 22  
gaaggtgtcg atcagggagg tagcgg 26

<210> 23  
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<223> PCR Primer 4lsy-4

<400> 23  
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 <211> 64  
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 <220>  
 <223> Synthetic oligonucleotide (Osyn-5' repair) for PCR  
  
 <400> 24  
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 atac 64  
  
 <210> 25  
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 <213> Human Immunodeficiency Virus  
  
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 <223> PCR Primer Osyn-5'CKS  
  
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 ctacaagaat tctatcgggtg gtgacatgaa agac 34  
  
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 <210> 33  
 <211> 18  
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 <400> 33  
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<210> 34
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<210> 35
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aatgggcttc tctgtggaac                                     20

<210> 36
<211> 20
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<220>
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<400> 36
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<210> 37
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<220>
<223> Sequencing Primer 4lsy-6B

<400> 37
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<210> 38
<211> 22
<212> DNA
<213> Human Immunodeficiency Virus

<220>
<223> PCR Primer pKRREcoR1 (Forward)

<400> 38
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<210> 39

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<211> 21
<212> DNA
<213> Human Immunodeficiency Virus

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<223> PCR Primer pKRRBamHI (Reverse)

<400> 39
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<210> 40
<211> 21
<212> DNA
<213> Human Immunodeficiency Virus

<220>
<223> PCR Primer 4lsy-1C

<400> 40
ctctgttatc aaaggtatcg t                                21

<210> 41
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<400> 41
agcagacgag cacgcagc                                    18

<210> 42
<211> 18
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<220>
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<400> 42
ttcagcagga acagaacg                                    18

<210> 43
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<212> DNA
<213> Human Immunodeficiency Virus

<220>
<223> PCR Primer 4lsy-5B

<400> 43
tccgcgtctg atcccgtc                                    18

<210> 44
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<213> Human Immunodeficiency Virus

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<223> PCR Primer 41sy-1

<400> 44

ccaggcacag caggaac 17

<210> 45

<211> 20

<212> DNA

<213> Human Immunodeficiency Virus

<220>

<223> Sequencing Primer 56759

<400> 45

acactataga atactcaagc 20

<210> 46

<211> 20

<212> DNA

<213> Human Immunodeficiency Virus

<220>

<223> Sequencing Primer 55848

<400> 46

taatacgact cactataggg 20

<210> 47

<211> 741

<212> DNA

<213> Human Immunodeficiency Virus

<220>

<223> Nucleotide sequence of the coding region of  
pGO-9PL

<400> 47

atgatcggtg	gtgacatgaa	agacatctgg	cgtaacgaac	tgttcaaata	caaagttggt	60
cgtgttaaac	cgttctctgt	tgctccgacc	ccgatcgctc	gtccggttat	cggtactggc	120
accacacgtg	aaaaacgtgc	tgtaggtctg	ggtatgctgt	tcctgggcgt	tctgtctgca	180
gcaggttcca	ctatgggtgc	tgcagctacc	gctctgaccg	tacagacca	ctctgttata	240
aaaggtatcg	tacagcagca	ggacaacctg	ctgcgtgcaa	tccaggcaca	gcaggaaactg	300
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ctgatccaga	accagcagct	gctgaacctg	tggggctgca	aaggtcgtct	gatctgctac	420
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gaaatccaga	aagctcaggt	tcagcaggaa	cagaacgaaa	aaaaactgct	ggaactggac	600
gaatgggctt	ctctgtggaa	ctggctggac	atcaccaaat	ggctgcgtaa	catccgtcag	660
ggctaccagc	cgctgtccct	gcagatcccc	accgctcagc	agtctgaagc	tgaaactccg	720
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<210> 48

<211> 245

<212> PRT

<213> Human Immunodeficiency Virus

<220>

<223> Encodes recombinant protein pGO-9PL

<400> 48

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Tyr	Lys	Val	Val	Arg	Val	Lys	Pro	Phe	Ser	Val	Ala	Pro	Thr	Pro	Ile
			20					25					30		
Ala	Arg	Pro	Val	Ile	Gly	Thr	Gly	Thr	His	Arg	Glu	Lys	Arg	Ala	Val
			35				40					45			
Gly	Leu	Gly	Met	Leu	Phe	Leu	Gly	Val	Leu	Ser	Ala	Ala	Gly	Ser	Thr
	50					55				60					
Met	Gly	Ala	Ala	Ala	Thr	Ala	Leu	Thr	Val	Gln	Thr	His	Ser	Val	Ile
65					70					75					80
Lys	Gly	Ile	Val	Gln	Gln	Asp	Asn	Leu	Leu	Arg	Ala	Ile	Gln	Ala	
				85				90					95		
Gln	Gln	Glu	Leu	Leu	Arg	Leu	Ser	Val	Trp	Gly	Ile	Arg	Gln	Leu	Arg
			100					105					110		
Ala	Arg	Leu	Leu	Ala	Leu	Glu	Thr	Leu	Ile	Gln	Asn	Gln	Gln	Leu	Leu
			115				120					125			
Asn	Leu	Trp	Gly	Cys	Lys	Gly	Arg	Leu	Ile	Cys	Tyr	Thr	Ser	Val	Lys
			130			135					140				
Trp	Asn	Glu	Thr	Trp	Arg	Asn	Thr	Thr	Asn	Ile	Asn	Gln	Ile	Trp	Gly
145					150					155					160
Asn	Leu	Thr	Trp	Gln	Glu	Trp	Asp	Gln	Gln	Ile	Asp	Asn	Val	Ser	Ser
				165				170						175	
Thr	Ile	Tyr	Glu	Glu	Ile	Gln	Lys	Ala	Gln	Val	Gln	Gln	Glu	Gln	Asn
			180					185					190		
Glu	Lys	Lys	Leu	Leu	Glu	Leu	Asp	Glu	Trp	Ala	Ser	Leu	Trp	Asn	Trp
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Leu	Asp	Ile	Thr	Lys	Trp	Leu	Arg	Asn	Ile	Arg	Gln	Gly	Tyr	Gln	Pro
	210					215					220				
Leu	Ser	Leu	Gln	Ile	Pro	Thr	Arg	Gln	Gln	Ser	Glu	Ala	Glu	Thr	Pro
225					230					235					240
Gly	Arg	Thr	Gly	Glu											
				245											

<210> 49

<211> 1476

<212> DNA

<213> Human Immunodeficiency Virus

<220>

<223> Nucleotide sequence of the coding region of  
pGO-9CKS

<400> 49

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ggtgccgagc	gcacatcgtg	ggcaaccgat	catgaggatg	ttgccgcgcg	cgttgaagcc	180
gctggcggtg	aagtatgtat	gacgcgcgcc	gatcatcagt	caggaacaga	acgtctggcg	240
gaagttgtcg	aaaaatgcgc	attcagcgac	gacacggtga	tcgttaatgt	gcagggtgat	300
gaaccgatga	tccttgcgac	aatcattcgt	caggttgctg	ataacctcgc	tcagcgtcag	360
gtgggtatga	ggctctggc	ggcgccaatc	cacaatgcgc	aagaagcggt	taaccggaat	420
gcggtgaaag	tggttctcga	cgctgaaggg	tatgcactgt	acttctctcg	cgccaccatt	480

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ccttggggtac gtgatcggtt tgcagaaggc cttgaaaccg ttggcgataa cttcctgcgt      540
catccttggtt tttatggcta ccgtgcaggc tttatccgtc gttacgtcaa ctggcagcca      600
agtcctgtag aacacatcga aatgttagag cagcttcgtg ttctgtggta cggcgaaaaa      660
atccatgttg ctggtgctca ggaagttcct ggcacagggt tggatacccc tgaagatctc      720
gacccgtcga cgaattctat cggtggtgac atgaaagaca tctggcgtaa cgaactgttc      780
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gttatcggtt ctggcaccca ccgtgaaaaa cgtgctgtag gtctgggtat gctgttcctg      900
ggcgttctgt ctgcagcagg ttccactatg ggtgctgcag ctaccgctct gaccgtacag      960
accactctg ttatcaaagg tatcgtagag cagcaggaca acctgctgct tgcaatccag     1020
gcacagcagg aactgctgct tctgtctgta tggggtatcc gtcagctgct tgctcgctct     1080
ctggcactgg aaacctgat ccagaaccag cagctgctga acctgtgggg ctgcaaaggt     1140
cgtctgatct gctacacctc cggttaaatg aacgaaacct ggcgtaaac caccaacatc     1200
aaccagatct ggggtaacct gacctggcag gaatgggacc agcagatcga caacgtttct     1260
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cgtaacatcc gtcagggtta ccagccgctg tccttgacga tcccgaccgg tcagcagtct     1440
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<210> 50

<211> 490

<212> PRT

<213> Human Immunodeficiency Virus

<220>

<223> Encodes recombinant protein pGO-9CKS

<400> 50

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 20              25              30
Val Leu Glu Arg Ala Arg Glu Ser Gly Ala Glu Arg Ile Ile Val Ala
 35              40              45
Thr Asp His Glu Asp Val Ala Arg Ala Val Glu Ala Ala Gly Gly Glu
 50              55              60
Val Cys Met Thr Arg Ala Asp His Gln Ser Gly Thr Glu Arg Leu Ala
 65              70              75              80
Glu Val Val Glu Lys Cys Ala Phe Ser Asp Asp Thr Val Ile Val Asn
 85              90              95
Val Gln Gly Asp Glu Pro Met Ile Pro Ala Thr Ile Ile Arg Gln Val
100              105              110
Ala Asp Asn Leu Ala Gln Arg Gln Val Gly Met Thr Thr Leu Ala Val
115              120              125
Pro Ile His Asn Ala Glu Glu Ala Phe Asn Pro Asn Ala Val Lys Val
130              135              140
Val Leu Asp Ala Glu Gly Tyr Ala Leu Tyr Phe Ser Arg Ala Thr Ile
145              150              155              160
Pro Trp Asp Arg Asp Arg Phe Ala Glu Gly Leu Glu Thr Val Gly Asp
165              170              175
Asn Phe Leu Arg His Leu Gly Ile Tyr Gly Tyr Arg Ala Gly Phe Ile
180              185              190
Arg Arg Tyr Val Asn Trp Gln Pro Ser Pro Leu Glu His Ile Glu Met
195              200              205
Leu Glu Gln Leu Arg Val Leu Trp Tyr Gly Glu Lys Ile His Val Ala
210              215              220
Val Ala Gln Glu Val Pro Gly Thr Gly Val Asp Thr Pro Glu Asp Leu
225              230              235              240

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Asp	Pro	Ser	Thr	Asn	Ser	Ile	Gly	Gly	Asp	Met	Lys	Asp	Ile	Trp	Arg
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			260					265					270		
Ala	Pro	Thr	Pro	Ile	Ala	Arg	Pro	Val	Ile	Gly	Thr	Gly	Thr	His	Arg
			275				280					285			
Glu	Lys	Arg	Ala	Val	Gly	Leu	Gly	Met	Leu	Phe	Leu	Gly	Val	Leu	Ser
		290				295					300				
Ala	Ala	Gly	Ser	Thr	Met	Gly	Ala	Ala	Ala	Thr	Ala	Leu	Thr	Val	Gln
305					310					315					320
Thr	His	Ser	Val	Ile	Lys	Gly	Ile	Val	Gln	Gln	Gln	Asp	Asn	Leu	Leu
				325					330					335	
Arg	Ala	Ile	Gln	Ala	Gln	Gln	Glu	Leu	Leu	Arg	Leu	Ser	Val	Trp	Gly
			340					345					350		
Ile	Arg	Gln	Leu	Arg	Ala	Arg	Leu	Leu	Ala	Leu	Glu	Thr	Leu	Ile	Gln
		355					360					365			
Asn	Gln	Gln	Leu	Leu	Asn	Leu	Trp	Gly	Cys	Lys	Gly	Arg	Leu	Ile	Cys
		370				375					380				
Tyr	Thr	Ser	Val	Lys	Trp	Asn	Glu	Thr	Trp	Arg	Asn	Thr	Thr	Asn	Ile
385				390						395				400	
Asn	Gln	Ile	Trp	Gly	Asn	Leu	Thr	Trp	Gln	Glu	Trp	Asp	Gln	Gln	Ile
				405					410				415		
Asp	Asn	Val	Ser	Ser	Thr	Ile	Tyr	Glu	Glu	Ile	Gln	Lys	Ala	Gln	Val
			420					425					430		
Gln	Gln	Glu	Gln	Asn	Glu	Lys	Lys	Leu	Leu	Glu	Leu	Asp	Glu	Trp	Ala
		435					440					445			
Ser	Leu	Trp	Asn	Trp	Leu	Asp	Ile	Thr	Lys	Trp	Leu	Arg	Asn	Ile	Arg
		450				455					460				
Gln	Gly	Tyr	Gln	Pro	Leu	Ser	Leu	Gln	Ile	Pro	Thr	Arg	Gln	Gln	Ser
465				470						475					480
Glu	Ala	Glu	Thr	Pro	Gly	Arg	Thr	Gly	Glu						
				485					490						

```
<210> 51
<211> 1125
<212> DNA
<213> Human Immunodeficiency Virus
```

<220>  
<223> Nucleotide sequence of the coding region of  
pGO-11PL

<400> 51						
atgacgcggtg	gtgacatgaa	agacatctgg	cgtaacgaac	tgttcaaata	caaagttggt	60
cgtgttaaacc	cgttctctgt	tgctccgacc	ccgatcgctc	gtccggttat	cggtagtggc	120
accacccgtg	aaaaacgtgc	tgtaggtctg	ggtatgctgt	tcctgggctg	tctgtctgca	180
gcaggttcca	ctatgggtgc	tgcagctacc	gctctgaccg	tacagaccca	ctctggtatc	240
aaaggatctg	tacagcagca	ggacaacctg	ctgcgtgcaa	tccaggcaca	gcaggtaactg	300
ctgcgtctgt	ctgtatgggg	tatccgtcag	ctgcgtgctc	gtctgctggc	actggaaacc	360
ctgatccaga	accagcagct	gctgaacctg	tggggctgca	aaggctgctc	gatctgctac	420
acctccgtta	aatggaacga	aacctggcgt	aacaccacca	acatcaacca	gatctggggg	480
aacctgacct	ggcaggaatg	ggaccagcag	atcgacaacg	tttcttccac	catctacgaa	540
gaaatccaga	aagctcaggt	tcagcaggaa	cagaacgaaa	aaaaactgct	ggaactggac	600
gaatgggctt	ctctgtggaa	ctggctggac	atcaccaaat	ggctgcgtaa	catccgtcag	660
ggctaccagc	cgctgtccct	gcagatcccc	accgctcagc	agtctgaagc	tgaaactccg	720
ggtcgctaccg	gtgaaggtgg	tggtagcgaa	ggcgtccgcg	gtctgatccc	gtctccgcag	780
ggtttccctgc	cgctgcgtga	caccgacctg	cgtaccatca	tcctgtggtc	ctaccacctg	840

```

ctgtctaacc tgatctctgg tactcagact gttatctctc acctgcgtct gggctctgtgg      900
attctgggtc agaaaatcat cgacgcttgc cgtatctgcg ctgctgttat ccactactgg      960
ctgcaggaac tgcagaaatc cgctacctcc ctgacgcaca ccttcgctgt tgcagttgct     1020
aactggactg acgacatcat cctgggtatc cagcgtctgg gtcgtgggtat cctgaacatc     1080
ccgcgtcgtg ttcgccaggg cttcgaacgc tctctgctgt aatag                        1125

```

```

<210> 52
<211> 373
<212> PRT
<213> Human Immunodeficiency Virus

```

```

<220>
<223> Encodes recombinant protein pGO-11PL

```

```

<400> 52
Met Ile Gly Gly Asp Met Lys Asp Ile Trp Arg Asn Glu Leu Phe Lys
 1           5           10           15
Tyr Lys Val Val Arg Val Lys Pro Phe Ser Val Ala Pro Thr Pro Ile
          20           25           30
Ala Arg Pro Val Ile Gly Thr Gly Thr His Arg Glu Lys Arg Ala Val
          35           40           45
Gly Leu Gly Met Leu Phe Leu Gly Val Leu Ser Ala Ala Gly Ser Thr
          50           55           60
Met Gly Ala Ala Ala Thr Ala Leu Thr Val Gln Thr His Ser Val Ile
65           70           75           80
Lys Gly Ile Val Gln Gln Asp Asn Leu Leu Arg Ala Ile Gln Ala
          85           90           95
Gln Gln Glu Leu Leu Arg Leu Ser Val Trp Gly Ile Arg Gln Leu Arg
          100          105          110
Ala Arg Leu Leu Ala Leu Glu Thr Leu Ile Gln Asn Gln Gln Leu Leu
          115          120          125
Asn Leu Trp Gly Cys Lys Gly Arg Leu Ile Cys Tyr Thr Ser Val Lys
          130          135          140
Trp Asn Glu Thr Trp Arg Asn Thr Thr Asn Ile Asn Gln Ile Trp Gly
145          150          155          160
Asn Leu Thr Trp Gln Glu Trp Asp Gln Gln Ile Asp Asn Val Ser Ser
          165          170          175
Thr Ile Tyr Glu Glu Ile Gln Lys Ala Gln Val Gln Gln Glu Gln Asn
          180          185          190
Glu Lys Lys Leu Leu Glu Leu Asp Glu Trp Ala Ser Leu Trp Asn Trp
          195          200          205
Leu Asp Ile Thr Lys Trp Leu Arg Asn Ile Arg Gln Gly Tyr Gln Pro
          210          215          220
Leu Ser Leu Gln Ile Pro Thr Arg Gln Gln Ser Glu Ala Glu Thr Pro
225          230          235          240
Gly Arg Thr Gly Glu Gly Gly Gly Asp Glu Gly Arg Pro Arg Leu Ile
          245          250          255
Pro Ser Pro Gln Gly Phe Leu Pro Leu Leu Tyr Thr Asp Leu Arg Thr
          260          265          270
Ile Ile Leu Trp Ser Tyr His Leu Leu Ser Asn Leu Ile Ser Gly Thr
          275          280          285
Gln Thr Val Ile Ser His Leu Arg Leu Gly Leu Trp Ile Leu Gly Gln
          290          295          300
Lys Ile Ile Asp Ala Cys Arg Ile Cys Ala Ala Val Ile His Tyr Trp
305          310          315          320
Leu Gln Glu Leu Gln Lys Ser Ala Thr Ser Leu Ile Asp Thr Phe Ala
          325          330          335

```

Val Ala Val Ala Asn Trp Thr Asp Asp Ile Ile Leu Gly Ile Gln Arg  
                   340                                  345                                  350  
 Leu Gly Arg Gly Ile Leu Asn Ile Pro Arg Arg Val Arg Gln Gly Phe  
                   355                                  360                                  365  
 Glu Arg Ser Leu Leu  
                   370

<210> 53  
 <211> 1860  
 <212> DNA  
 <213> Human Immunodeficiency Virus

<220>  
 <223> Nucleotide sequence of the coding region of  
           pGO-11CKS

<400> 53  
 atgagtttttg tggtcattat tcccgcgcgc tacgcgtcga cgcgtctgcc cggtaaacca 60  
 ttggttgata ttaacggcaa acccatgatt gttcatgttc ttgaacgcgc gcgtgaatca 120  
 ggtgccgagc gcatcatcgt ggcaaccgat catgaggatg ttgccgcgc cggtgaagcc 180  
 gctggcgggtg aagtatgtat gacgcgcgcc gatcatcagt caggaacaga acgtctggcg 240  
 gaagttgtcg aaaaatgcgc attcagcgac gacacggtag tcgttaatgt gcagggtgat 300  
 gaaccgatga tccctgcgac aatcattcgt caggttgctg ataacctcgc tcagcgtcag 360  
 gtgggtatga cgactctggc ggtgccaatc cacaatgcgc aagaagcgtt taaccggaat 420  
 gcggtgaaag tggttctcga cgctgaaggg tatgcactgt acttctctcg cgccaccatt 480  
 ccttgggatac gtgatcgttt tgcagaaggc cttgaaaccg ttggcgataa cttcctgcgt 540  
 catcttggtta tttatggcta ccgtgcaggc tttatccgtc gttacgtcaa ctggcagcca 600  
 agtccgttag aacacatcga aatgttagag cagcttcgtg ttctgtggta cggcgaaaaa 660  
 atccatgttg ctgttgctca ggaagttcct ggacacaggg tggatacccc tgaagatctc 720  
 gaccgcgcga cgaattctat cgggtggtgac atgaaagaca tctggcgtaa cgaactgttc 780  
 aaatacaaaag ttgttcgtgt taaaccgttc tctgttgctc cgaccccgat cgctcgtccg 840  
 gttatcggta ctggcaccca ccgtgaaaaa cgtgctgtag gtctgggtat gctgttcctg 900  
 ggcgttctgt ctgcagcagg ttccactatg ggtgctgcag ctaccgctct gaccgtacag 960  
 acccactctg ttatcaaagg tatcgtacag cagcaggaca acctgctgcg tgcaatccag 1020  
 gcacagcagg aactgctgcg tctgtctgta tggggtatcc gtcagctgcg tgctcgtctg 1080  
 ctggcactgg aaacctgat ccagaaccag cagctgctga acctgtgggg ctgcaaaggt 1140  
 cgtctgatct gtaacacctc cggttaaagg aacgaaacct ggcgtaacac caccaacatc 1200  
 aaccagatct ggggtaacct gacctggcag gaatgggacc agcagatcga caacgtttct 1260  
 tccaccatct acgaagaaat ccagaaagct caggttcagc aggaacagaa cgaaaaaaaa 1320  
 ctgctggaac tggacgaatg ggcttctctg tggaaactggc tggacatcac caaatggctg 1380  
 cgtaacatcc gtcagggcta ccagccgctg tccctgcaga tcccgaaccg tcagcagtct 1440  
 gaagctgaaa ctccgggtcg taccgggtgaa ggtgggtggg acgaaggccg tccgcgtctg 1500  
 atcccgctct cgcaggggtt cctgccgctg ctgtacaccg acctgcgtac catcatcctg 1560  
 tggctctacc acctgctgtc taacctgata tctggtactc agactgttat ctctcacctg 1620  
 cgtctgggta tgtggattct gggtcagaaa atcatcgacg cttgccgtat ctgcgtgct 1680  
 gttatccact actggctgca ggaactgcag aaatccgcta cctccctgat cgacaccttc 1740  
 gctgttcgag ttgctaactg gactgacgac atcatcctgg gtatccagcg tctgggtcgt 1800  
 ggtatcctga acatcccgcg tcgtgttcgc cagggtctcg aacgctctct gctgtaatat 1860

<210> 54  
 <211> 618  
 <212> PRT  
 <213> Human Immunodeficiency Virus

<220>  
 <223> Encodes recombinant protein pGO-11CKS

```

      <400> 54
Met Ser Phe Val Val Ile Ile Pro Ala Arg Tyr Ala Ser Thr Arg Leu
 1          5          10          15
Pro Gly Lys Pro Leu Val Asp Ile Asn Gly Lys Pro Met Ile Val His
      20          25          30
Val Leu Glu Arg Ala Arg Glu Ser Gly Ala Glu Arg Ile Ile Val Ala
      35          40          45
Thr Asp His Glu Asp Val Ala Arg Ala Val Glu Ala Ala Gly Gly Glu
      50          55          60
Val Cys Met Thr Arg Ala Asp His Gln Ser Gly Thr Glu Arg Leu Ala
65          70          75          80
Glu Val Val Glu Lys Cys Ala Phe Ser Asp Asp Thr Val Ile Val Asn
      85          90          95
Val Gln Gly Asp Glu Pro Met Ile Pro Ala Thr Ile Ile Arg Gln Val
      100          105          110
Ala Asp Asn Leu Ala Gln Arg Gln Val Gly Met Thr Thr Leu Ala Val
      115          120          125
Pro Ile His Asn Ala Glu Glu Ala Phe Asn Pro Asn Ala Val Lys Val
      130          135          140
Val Leu Asp Ala Glu Gly Tyr Ala Leu Tyr Phe Ser Arg Ala Thr Ile
145          150          155          160
Pro Trp Asp Arg Asp Arg Phe Ala Glu Gly Leu Glu Thr Val Gly Asp
      165          170          175
Asn Phe Leu Arg His Leu Gly Ile Tyr Gly Tyr Arg Ala Gly Phe Ile
      180          185          190
Arg Arg Tyr Val Asn Trp Gln Pro Ser Pro Leu Glu His Ile Glu Met
      195          200          205
Leu Glu Gln Leu Arg Val Leu Trp Tyr Gly Glu Lys Ile His Val Ala
      210          215          220
Val Ala Gln Glu Val Pro Gly Thr Gly Val Asp Thr Pro Glu Asp Leu
225          230          235          240
Asp Pro Ser Thr Asn Ser Ile Gly Gly Asp Met Lys Asp Ile Trp Arg
      245          250          255
Asn Glu Leu Phe Lys Tyr Lys Val Val Arg Val Lys Pro Phe Ser Val
      260          265          270
Ala Pro Thr Pro Ile Ala Arg Pro Val Ile Gly Thr Gly Thr His Arg
      275          280          285
Glu Lys Arg Ala Val Gly Leu Gly Met Leu Phe Leu Gly Val Leu Ser
      290          295          300
Ala Ala Gly Ser Thr Met Gly Ala Ala Ala Thr Ala Leu Thr Val Gln
305          310          315          320
Thr His Ser Val Ile Lys Gly Ile Val Gln Gln Gln Asp Asn Leu Leu
      325          330          335
Arg Ala Ile Gln Ala Gln Gln Glu Leu Leu Arg Leu Ser Val Trp Gly
      340          345          350
Ile Arg Gln Leu Arg Ala Arg Leu Leu Ala Leu Glu Thr Leu Ile Gln
      355          360          365
Asn Gln Gln Leu Leu Asn Leu Trp Gly Cys Lys Gly Arg Leu Ile Cys
      370          375          380
Tyr Thr Ser Val Lys Trp Asn Glu Thr Trp Arg Asn Thr Thr Asn Ile
385          390          395          400
Asn Gln Ile Trp Gly Asn Leu Thr Trp Gln Glu Trp Asp Gln Gln Ile
      405          410          415
Asp Asn Val Ser Thr Ile Tyr Glu Glu Ile Gln Lys Ala Gln Val
      420          425          430
Gln Gln Glu Gln Asn Glu Lys Lys Leu Leu Glu Leu Asp Glu Trp Ala
      435          440          445

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Ser Leu Trp Asn Trp Leu Asp Ile Thr Lys Trp Leu Arg Asn Ile Arg
  450                      455                      460
Gln Gly Tyr Gln Pro Leu Ser Leu Gln Ile Pro Thr Arg Gln Gln Ser
465                      470                      475                      480
Glu Ala Glu Thr Pro Gly Arg Thr Gly Glu Gly Gly Gly Asp Glu Gly
                      485                      490                      495
Arg Pro Arg Leu Ile Pro Ser Pro Gln Gly Phe Leu Pro Leu Leu Tyr
          500                      505                      510
Thr Asp Leu Arg Thr Ile Ile Leu Trp Ser Tyr His Leu Leu Ser Asn
          515                      520                      525
Leu Ile Ser Gly Thr Gln Thr Val Ile Ser His Leu Arg Leu Gly Leu
          530                      535                      540
Trp Ile Leu Gly Gln Lys Ile Ile Asp Ala Cys Arg Ile Cys Ala Ala
545                      550                      555                      560
Val Ile His Tyr Trp Leu Gln Glu Leu Gln Lys Ser Ala Thr Ser Leu
          565                      570                      575
Ile Asp Thr Phe Ala Val Ala Val Ala Asn Trp Thr Asp Asp Ile Ile
          580                      585                      590
Leu Gly Ile Gln Arg Leu Gly Arg Gly Ile Leu Asn Ile Pro Arg Arg
          595                      600                      605
Val Arg Gln Gly Phe Glu Arg Ser Leu Leu
          610                      615

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<210> 55
<211> 466
<212> PRT
<213> Human Immunodeficiency Virus

```

```

<220>
<223> HIV-2 recombinant peptide (pHIV-210)

```

```

<400> 55
Met Ser Phe Val Val Ile Ile Pro Ala Arg Tyr Ala Ser Thr Arg Leu
  1                      5                      10                      15
Pro Gly Lys Pro Leu Val Asp Ile Asn Gly Lys Pro Met Ile Val His
          20                      25                      30
Val Leu Glu Arg Ala Arg Glu Ser Gly Ala Glu Arg Ile Ile Val Ala
          35                      40                      45
Thr Asp His Glu Asp Val Ala Arg Ala Val Glu Ala Ala Gly Gly Glu
          50                      55                      60
Val Cys Met Thr Arg Ala Asp His Gln Ser Gly Thr Glu Arg Leu Ala
65                      70                      75                      80
Glu Val Val Glu Lys Cys Ala Phe Ser Asp Asp Thr Val Ile Val Asn
          85                      90                      95
Val Gln Gly Asp Glu Pro Met Ile Pro Ala Thr Ile Ile Arg Gln Val
          100                     105                     110
Ala Asp Asn Leu Ala Gln Arg Gln Val Gly Met Thr Thr Leu Ala Val
          115                     120                     125
Pro Ile His Asn Ala Glu Glu Ala Phe Asn Pro Asn Ala Val Lys Val
          130                     135                     140
Val Leu Asp Ala Glu Gly Tyr Ala Leu Tyr Phe Ser Arg Ala Thr Ile
145                     150                     155                     160
Pro Trp Asp Arg Asp Arg Phe Ala Glu Gly Leu Glu Thr Val Gly Asp
          165                     170                     175
Asn Phe Leu Arg His Leu Gly Ile Tyr Gly Tyr Arg Ala Gly Phe Ile
          180                     185                     190
Arg Arg Tyr Val Asn Trp Gln Pro Ser Pro Leu Glu His Ile Glu Met

```

195	200	205
Leu Glu Gln Leu Arg Val	Leu Trp Tyr Gly Glu Lys Ile His Val Ala	
210	215	220
Val Ala Gln Glu Val Pro Gly Thr Gly Val Asp Thr Pro Glu Asp Leu		
225	230	235
Asp Pro Ser Thr Asn Ser Met Glu Gly Glu Leu Thr Cys Asn Ser Thr		
245	250	255
Val Thr Ser Ile Ile Ala Asn Ile Asp Ser Asp Gly Asn Gln Thr Asn		
260	265	270
Ile Thr Phe Ser Ala Glu Val Ala Glu Leu Tyr Arg Leu Glu Leu Gly		
275	280	285
Asp Tyr Lys Leu Ile Glu Val Thr Pro Ile Gly Phe Ala Pro Thr Lys		
290	295	300
Glu Lys Arg Tyr Ser Ser Ala Pro Val Arg Asn Lys Arg Gly Val Phe		
305	310	315
Val Leu Gly Phe Leu Gly Phe Leu Ala Thr Ala Gly Ser Ala Met Gly		
325	330	335
Ala Ala Ser Leu Thr Leu Ser Ala Gln Ser Arg Thr Leu Leu Ala Gly		
340	345	350
Ile Val Gln Gln Gln Gln Gln Leu Leu Asp Val Val Lys Arg Gln Gln		
355	360	365
Glu Met Leu Arg Leu Thr Val Trp Gly Thr Lys Asn Leu Gln Ala Arg		
370	375	380
Val Thr Ala Ile Glu Lys Tyr Leu Lys Asp Gln Ala Gln Leu Asn Ser		
385	390	395
Trp Gly Cys Ala Phe Arg Gln Val Cys His Thr Thr Val Pro Trp Val		
405	410	415
Asn Asp Ser Leu Thr Pro Asp Trp Asn Asn Met Thr Trp Gln Glu Trp		
420	425	430
Glu Lys Arg Val His Tyr Leu Glu Ala Asn Ile Ser Gln Ser Leu Glu		
435	440	445
Gln Ala Gln Ile Gln Gln Glu Lys Asn Met Tyr Glu Leu Gln Lys Leu		
450	455	460
Asn Ser		
465		

<210> 56  
 <211> 491  
 <212> PRT  
 <213> Human Immunodeficiency Virus

<220>  
 <223> HIV-1 Group M recombinant peptide (pTB319)

<400> 56
Met Ser Phe Val Val Ile Ile Pro Ala Arg Tyr Ala Ser Thr Arg Leu
1 5 10 15
Pro Gly Lys Pro Leu Val Asp Ile Asn Gly Lys Pro Met Ile Val His
20 25 30
Val Leu Glu Arg Ala Arg Glu Ser Gly Ala Glu Arg Ile Ile Val Ala
35 40 45
Thr Asp His Glu Asp Val Ala Arg Ala Val Glu Ala Ala Gly Gly Glu
50 55 60
Val Cys Met Thr Arg Ala Asp His Gln Ser Gly Thr Glu Arg Leu Ala
65 70 75 80
Glu Val Val Glu Lys Cys Ala Phe Ser Asp Asp Thr Val Ile Val Asn
85 90 95

Val	Gln	Gly	Asp	Glu	Pro	Met	Ile	Pro	Ala	Thr	Ile	Ile	Arg	Gln	Val	100	105	110
Ala	Asp	Asn	Leu	Ala	Gln	Arg	Gln	Val	Gly	Met	Ala	Thr	Leu	Ala	Val	115	120	125
Pro	Ile	His	Asn	Ala	Glu	Glu	Ala	Phe	Asn	Pro	Asn	Ala	Val	Lys	Val	130	135	140
Val	Leu	Asp	Ala	Glu	Gly	Tyr	Ala	Leu	Tyr	Phe	Ser	Arg	Ala	Thr	Ile	145	150	155
Pro	Trp	Asp	Arg	Asp	Arg	Phe	Ala	Glu	Gly	Leu	Glu	Thr	Val	Gly	Asp	165	170	175
Asn	Phe	Leu	Arg	His	Leu	Gly	Ile	Tyr	Gly	Tyr	Arg	Ala	Gly	Phe	Ile	180	185	190
Arg	Arg	Tyr	Val	Asn	Trp	Gln	Pro	Ser	Pro	Leu	Glu	His	Ile	Glu	Met	195	200	205
Leu	Glu	Gln	Leu	Arg	Val	Leu	Trp	Tyr	Gly	Glu	Lys	Ile	His	Val	Ala	210	215	220
Val	Ala	Gln	Glu	Val	Pro	Gly	Thr	Gly	Val	Asp	Thr	Pro	Glu	Asp	Pro	225	230	235
Ser	Thr	Ala	Leu	Met	Lys	Ile	Pro	Gly	Asp	Pro	Gly	Gly	Gly	Asp	Met	245	250	255
Arg	Asp	Asn	Trp	Arg	Ser	Glu	Leu	Tyr	Lys	Tyr	Lys	Val	Val	Lys	Ile	260	265	270
Glu	Pro	Leu	Gly	Val	Ala	Pro	Thr	Lys	Ala	Lys	Arg	Arg	Val	Val	Gln	275	280	285
Arg	Glu	Lys	Arg	Ala	Val	Gly	Ile	Gly	Ala	Leu	Phe	Leu	Gly	Phe	Leu	290	295	300
Gly	Ala	Ala	Gly	Ser	Thr	Met	Gly	Ala	Ala	Ser	Met	Thr	Leu	Thr	Val	305	310	315
Gln	Ala	Arg	Gln	Leu	Leu	Ser	Gly	Ile	Val	Gln	Gln	Gln	Asn	Asn	Leu	325	330	335
Leu	Arg	Ala	Ile	Glu	Ala	Gln	Gln	His	Leu	Leu	Gln	Leu	Thr	Val	Trp	340	345	350
Gly	Ile	Lys	Gln	Leu	Gln	Ala	Arg	Ile	Leu	Ala	Val	Glu	Arg	Tyr	Leu	355	360	365
Lys	Asp	Gln	Gln	Leu	Leu	Gly	Ile	Trp	Gly	Cys	Ser	Gly	Lys	Leu	Ile	370	375	380
Cys	Thr	Thr	Ala	Val	Pro	Trp	Asn	Ala	Ser	Trp	Ser	Asn	Lys	Ser	Leu	385	390	395
Glu	Gln	Ile	Trp	Asn	Asn	Met	Thr	Trp	Met	Glu	Trp	Asp	Arg	Glu	Ile	405	410	415
Asn	Asn	Tyr	Thr	Ser	Leu	Ile	His	Ser	Leu	Ile	Glu	Glu	Ser	Gln	Asn	420	425	430
Gln	Gln	Glu	Lys	Asn	Glu	Gln	Glu	Leu	Leu	Glu	Leu	Asp	Lys	Trp	Val	435	440	445
Asn	Arg	Val	Arg	Gln	Gly	Tyr	Ser	Pro	Leu	Ser	Phe	Gln	Thr	His	Leu	450	455	460
Pro	Ile	Pro	Arg	Gly	Pro	Asp	Arg	Pro	Glu	Gly	Ile	Glu	Lys	Lys	Ala	465	470	475
Ala	Asn	Val	Thr	Val	Thr	Val	Pro	Phe	Val	Trp						485	490	

&lt;210&gt; 57

&lt;211&gt; 651

&lt;212&gt; DNA

&lt;213&gt; Human Immunodeficiency Virus

&lt;220&gt;

<223> Nucleotide sequence of the coding region of  
pGO-8PL

<400> 57

atgacgcggtg	gtgacatgaa	agacatctgg	cgtaacgaac	tgttcaaata	caaagttggt	60
cgtgttaa	aac	cgttctctgt	tgctccgacc	ccgatcgctc	gtccgggttat	cggtactggc 120
accacccgtg	aaaaacgtgc	tgtaggtctg	ggtatgctgt	tcctggg	cggt	tctgtctgca 180
gcaggttcca	ctatgggtgc	tgacagctacc	gctctgaccg	tacagaccca	ctctgttatc	240
aaaggtatcg	tacagcagca	ggacaacctg	ctgcgtgcaa	tccaggcaca	gcaggaactg	300
ctgcgtctgt	ctgtatgggg	tatccgtcag	ctgcgtgctc	gtctgctggc	actggaaacc	360
ctgatccaga	accagcagct	gctgaacctg	tggggctgca	aaggctcgtct	gatctgctac	420
acctccgtta	aatggaacga	aacctggcgt	aacaccacca	acatcaacca	gatctgggggt	480
aacctgacct	ggcaggaatg	ggaccagcag	atcgacaacg	tttcttccac	catctacgaa	540
gaaatccaga	aagctcaggt	tcagcaggaa	cagaacgaaa	aaaaactgct	ggaactggac	600
gaatgggctt	ctctgtggaa	ctggctggac	atcaccaaat	ggctgtaata	g	651

<210> 58

<211> 215

<212> PRT

<213> Human Immunodeficiency Virus

<220>

<223> Encodes recombinant protein pGO-8PL

<400> 58

Met	Ile	Gly	Gly	Asp	Met	Lys	Asp	Ile	Trp	Arg	Asn	Glu	Leu	Phe	Lys
1				5					10					15	
Tyr	Lys	Val	Val	Arg	Val	Lys	Pro	Phe	Ser	Val	Ala	Pro	Thr	Pro	Ile
			20					25					30		
Ala	Arg	Pro	Val	Ile	Gly	Thr	Gly	Thr	His	Arg	Glu	Lys	Arg	Ala	Val
			35				40					45			
Gly	Leu	Gly	Met	Leu	Phe	Leu	Gly	Val	Leu	Ser	Ala	Ala	Gly	Ser	Thr
			50				55				60				
Met	Gly	Ala	Ala	Ala	Thr	Ala	Leu	Thr	Val	Gln	Thr	His	Ser	Val	Ile
65					70				75					80	
Lys	Gly	Ile	Val	Gln	Gln	Asp	Asn	Leu	Leu	Arg	Ala	Ile	Gln	Ala	
				85				90					95		
Gln	Gln	Glu	Leu	Leu	Arg	Leu	Ser	Val	Trp	Gly	Ile	Arg	Gln	Leu	Arg
			100					105					110		
Ala	Arg	Leu	Leu	Ala	Leu	Glu	Thr	Leu	Ile	Gln	Asn	Gln	Gln	Leu	Leu
			115				120					125			
Asn	Leu	Trp	Gly	Cys	Lys	Gly	Arg	Leu	Ile	Cys	Tyr	Thr	Ser	Val	Lys
130						135					140				
Trp	Asn	Glu	Thr	Trp	Arg	Asn	Thr	Thr	Asn	Ile	Asn	Gln	Ile	Trp	Gly
145					150				155					160	
Asn	Leu	Thr	Trp	Gln	Glu	Trp	Asp	Gln	Gln	Ile	Asp	Asn	Val	Ser	Ser
			165					170						175	
Thr	Ile	Tyr	Glu	Glu	Ile	Gln	Lys	Ala	Gln	Val	Gln	Gln	Glu	Gln	Asn
			180					185					190		
Glu	Lys	Lys	Leu	Leu	Glu	Leu	Asp	Glu	Trp	Ala	Ser	Leu	Trp	Asn	Trp
			195				200					205			
Leu	Asp	Ile	Thr	Lys	Trp	Leu									
210							215								

<210> 59

<211> 1386

<212> DNA

<213> Human Immunodeficiency Virus

<220>

<223> Nucleotide sequence of the coding region of  
pGO-8CKS

<400> 59

atgagttttg	tgggtcattat	tcccgcgcgc	tacgcgtcga	cgcgtctgcc	cggtaaacca	60
ttggttgata	ttaacggcaa	acccatgatt	gttcattgttc	ttgaacgcgc	gcgtgaatca	120
ggtgccgagc	gcatcatcgt	ggcaaccgat	catgaggatg	ttgcccgccg	cgttgaagcc	180
gctggcgggtg	aagtatgtat	gacgcgcgcc	gatcatcagt	caggaacaga	acgtctggcg	240
gaagttgtcg	aaaaatgcgc	attcagcgac	gacacgggtga	tcgttaatgt	gcagggtgat	300
gaaccgatga	tccctgcgac	aatcattcgt	caggttgtctg	ataacctcgc	tcagcgtcag	360
gtgggtatga	cgactctggc	ggtgccaatc	cacaatgcgg	aagaagcgtt	taaccggaat	420
gcggtgaaag	tggttctcga	cgtgaaagg	tatgcactgt	acttctctcg	cgccaccatt	480
ccttgggatc	gtgatcgttt	tgcagaaggc	cttgaaaccg	ttggcgataa	cttctctcgt	540
catcttggtta	tttatggcta	ccgtgcaggc	tttatccgtc	gttacgtcaa	ctggcagcca	600
agtcggttag	aacacatcga	aatgttagag	cagcttcgtg	ttctgtggta	cggcgaaaaa	660
atccatgttg	ctggttgcct	ggaagttcct	ggcacagggtg	tggatacccc	tgaagatctc	720
gacccgtcga	cgaattctat	cgggtggtgac	atgaaagaca	tctggcgtaa	cgaactgttc	780
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<210> 60

<211> 460

<212> PRT

<213> Human Immunodeficiency Virus

<220>

<223> Encodes recombinant protein pGO-8CKS

<400> 60

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			20					25					30		
Val	Leu	Glu	Arg	Ala	Arg	Glu	Ser	Gly	Ala	Glu	Arg	Ile	Ile	Val	Ala
		35					40					45			
Thr	Asp	His	Glu	Asp	Val	Ala	Arg	Ala	Val	Glu	Ala	Ala	Gly	Gly	Glu
	50					55				60					
Val	Cys	Met	Thr	Arg	Ala	Asp	His	Gln	Ser	Gly	Thr	Glu	Arg	Leu	Ala
65					70				75					80	
Glu	Val	Glu	Lys	Cys	Ala	Phe	Ser	Asp	Asp	Thr	Val	Ile	Val	Asn	Val
			85					90					95		
Val	Gln	Gly	Asp	Glu	Pro	Met	Ile	Pro	Ala	Thr	Ile	Ile	Arg	Gln	Val
	100							105					110		
Ala	Asp	Asn	Leu	Ala	Gln	Arg	Gln	Val	Gly	Met	Thr	Thr	Leu	Ala	Val
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Pro Ile His Asn Ala Glu Glu Ala Phe Asn Pro Asn Ala Val Lys Val
  130          135          140
Val Leu Asp Ala Glu Gly Tyr Ala Leu Tyr Phe Ser Arg Ala Thr Ile
  145          150          155          160
Pro Trp Asp Arg Asp Arg Phe Ala Glu Gly Leu Glu Thr Val Gly Asp
          165          170          175
Asn Phe Leu Arg His Leu Gly Ile Tyr Gly Tyr Arg Ala Gly Phe Ile
          180          185          190
Arg Arg Tyr Val Asn Trp Gln Pro Ser Pro Leu Glu His Ile Glu Met
          195          200          205
Leu Glu Gln Leu Arg Val Leu Trp Tyr Gly Glu Lys Ile His Val Ala
  210          215          220
Val Ala Gln Glu Val Pro Gly Thr Gly Val Asp Thr Pro Glu Asp Leu
  225          230          235          240
Asp Pro Ser Thr Asn Ser Ile Gly Gly Asp Met Lys Asp Ile Trp Arg
          245          250          255
Asn Glu Leu Phe Lys Tyr Lys Val Val Arg Val Lys Pro Phe Ser Val
          260          265          270
Ala Pro Thr Pro Ile Ala Arg Pro Val Ile Gly Thr Gly Thr His Arg
          275          280          285
Glu Lys Arg Ala Val Gly Leu Gly Met Leu Phe Leu Gly Val Leu Ser
  290          295          300
Ala Ala Gly Ser Thr Met Gly Ala Ala Ala Thr Ala Leu Thr Val Gln
  305          310          315          320
Thr His Ser Val Ile Lys Gly Ile Val Gln Gln Gln Asp Asn Leu Leu
          325          330          335
Arg Ala Ile Gln Ala Gln Gln Glu Leu Arg Leu Ser Val Trp Gly
          340          345          350
Ile Arg Gln Leu Arg Ala Arg Leu Leu Ala Leu Glu Thr Leu Ile Gln
          355          360          365
Asn Gln Gln Leu Leu Asn Leu Trp Gly Cys Lys Gly Arg Leu Ile Cys
  370          375          380
Tyr Thr Ser Val Lys Trp Asn Glu Thr Trp Arg Asn Thr Thr Asn Ile
  385          390          395          400
Asn Gln Ile Trp Gly Asn Leu Thr Trp Gln Glu Trp Asp Gln Gln Ile
          405          410          415
Asp Asn Val Ser Ser Thr Ile Tyr Glu Glu Ile Gln Lys Ala Gln Val
          420          425          430
Gln Gln Glu Gln Asn Glu Lys Lys Leu Leu Glu Leu Asp Glu Trp Ala
          435          440          445
Ser Leu Trp Asn Trp Leu Asp Ile Thr Lys Trp Leu
  450          455          460

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<210> 61  
 <211> 873  
 <212> PRT  
 <213> Human Immunodeficiency Virus

<220>  
 <223> HIV-1 Group O isolate HAM112

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Ile Leu Tyr Ile Val Met Ala Leu Ile Pro Cys Leu Ser Ser Ser
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Gln Leu Tyr Ala Thr Val Tyr Ala Gly Val Pro Val Trp Glu Asp Ala

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		35					40					45				
Ala	Pro	Val	Leu	Phe	Cys	Ala	Ser	Asp	Ala	Asn	Leu	Thr	Ser	Thr	Glu	
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Lys	His	Asn	Val	Trp	Ala	Ser	Gln	Ala	Cys	Val	Pro	Thr	Asp	Pro	Thr	
65					70					75					80	
Pro	His	Glu	Tyr	Leu	Leu	Thr	Asn	Val	Thr	Asp	Asn	Phe	Asn	Ile	Trp	
				85					90					95		
Glu	Asn	Tyr	Met	Val	Glu	Gln	Met	Gln	Glu	Asp	Ile	Ile	Ser	Leu	Trp	
			100					105					110			
Asp	Gln	Ser	Leu	Lys	Pro	Cys	Ile	Gln	Met	Thr	Phe	Met	Cys	Ile	Gln	
		115					120					125				
Met	Asn	Cys	Thr	Asp	Ile	Lys	Asn	Asn	Asn	Thr	Ser	Gly	Thr	Glu	Asn	
	130					135					140					
Arg	Thr	Ser	Ser	Ser	Glu	Asn	Pro	Met	Lys	Thr	Cys	Glu	Phe	Asn	Ile	
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Thr	Thr	Val	Leu	Lys	Asp	Lys	Lys	Glu	Lys	Lys	Gln	Ala	Leu	Phe	Tyr	
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Val	Ser	Asp	Leu	Thr	Lys	Leu	Ala	Asp	Asn	Asn	Thr	Thr	Asn	Thr	Met	
			180					185					190			
Tyr	Thr	Leu	Ile	Asn	Cys	Asn	Ser	Thr	Thr	Ile	Lys	Gln	Ala	Cys	Pro	
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Lys	Val	Ser	Phe	Glu	Pro	Ile	Pro	Ile	Tyr	Tyr	Cys	Ala	Pro	Ala	Gly	
	210					215					220					
Tyr	Ala	Ile	Phe	Lys	Cys	Asn	Ser	Ala	Glu	Phe	Asn	Gly	Thr	Gly	Lys	
225					230					235					240	
Cys	Ser	Asn	Ile	Ser	Val	Val	Thr	Cys	Thr	His	Gly	Ile	Lys	Pro	Thr	
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Val	Ser	Thr	Gln	Leu	Ile	Leu	Asn	Gly	Thr	Leu	Ser	Lys	Glu	Lys	Ile	
			260					265					270			
Arg	Ile	Met	Gly	Lys	Asn	Ile	Ser	Asp	Ser	Gly	Lys	Asn	Ile	Ile	Val	
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Thr	Leu	Ser	Ser	Asp	Ile	Glu	Ile	Thr	Cys	Val	Arg	Pro	Gly	Asn	Asn	
	290					295					300					
Gln	Thr	Val	Gln	Glu	Met	Lys	Ile	Gly	Pro	Met	Ala	Trp	Tyr	Ser	Met	
305					310					315					320	
Ala	Leu	Gly	Thr	Gly	Ser	Asn	Arg	Ser	Arg	Val	Ala	Tyr	Cys	Gln	Tyr	
				325					330					335		
Asn	Thr	Thr	Glu	Trp	Glu	Lys	Ala	Leu	Lys	Asn	Thr	Ala	Glu	Arg	Tyr	
			340					345					350			
Leu	Glu	Leu	Ile	Asn	Asn	Thr	Glu	Gly	Asn	Thr	Thr	Met	Ile	Phe	Asn	
		355					360					365				
Arg	Ser	Gln	Asp	Gly	Ser	Asp	Val	Glu	Val	Thr	His	Leu	His	Phe	Asn	
	370					375					380					
Cys	His	Gly	Glu	Phe	Phe	Tyr	Cys	Asn	Thr	Ser	Glu	Met	Phe	Asn	Tyr	
385					390					395						

Lys Pro Phe Ser Val Ala Pro Thr Pro Ile Ala Arg Pro Val Ile Gly  
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 Thr Gly Thr His Arg Glu Lys Arg Ala Val Gly Leu Gly Met Leu Phe  
 515 520 525  
 Leu Gly Val Leu Ser Ala Ala Gly Ser Thr Met Gly Ala Ala Ala Thr  
 530 535 540  
 Ala Leu Thr Val Gln Thr His Ser Val Ile Lys Gly Ile Val Gln Gln  
 545 550 555 560  
 Gln Asp Asn Leu Leu Arg Ala Ile Gln Ala Gln Gln Glu Leu Leu Arg  
 565 570 575  
 Leu Ser Val Trp Gly Ile Arg Gln Leu Arg Ala Arg Leu Leu Ala Leu  
 580 585 590  
 Glu Thr Leu Ile Gln Asn Gln Gln Leu Leu Asn Leu Trp Gly Cys Lys  
 595 600 605  
 Gly Arg Leu Ile Cys Tyr Thr Ser Val Lys Trp Asn Glu Thr Trp Arg  
 610 615 620  
 Asn Thr Thr Asn Ile Asn Gln Ile Trp Gly Asn Leu Thr Trp Gln Glu  
 625 630 635 640  
 Trp Asp Gln Gln Ile Asp Asn Val Ser Ser Thr Ile Tyr Glu Glu Ile  
 645 650 655  
 Gln Lys Ala Gln Val Gln Gln Glu Gln Asn Glu Lys Lys Leu Leu Glu  
 660 665 670  
 Leu Asp Glu Trp Ala Ser Leu Trp Asn Trp Leu Asp Ile Thr Lys Trp  
 675 680 685  
 Leu Trp Tyr Ile Lys Ile Ala Ile Ile Ile Val Gly Ala Leu Ile Gly  
 690 695 700  
 Val Arg Ile Val Met Ile Val Leu Asn Leu Val Arg Asn Ile Arg Gln  
 705 710 715 720  
 Gly Tyr Gln Pro Leu Ser Leu Gln Ile Pro Thr Arg Gln Gln Ser Glu  
 725 730 735  
 Ala Glu Thr Pro Gly Arg Thr Gly Glu Gly Gly Gly Asp Glu Gly Arg  
 740 745 750  
 Pro Arg Leu Ile Pro Ser Pro Gln Gly Phe Leu Pro Leu Leu Tyr Thr  
 755 760 765  
 Asp Leu Arg Thr Ile Ile Leu Trp Ser Tyr His Leu Leu Ser Asn Leu  
 770 775 780  
 Ile Ser Gly Thr Gln Thr Val Ile Ser His Leu Arg Leu Gly Leu Trp  
 785 790 795 800  
 Ile Leu Gly Gln Lys Ile Ile Asp Ala Cys Arg Ile Cys Ala Ala Val  
 805 810 815  
 Ile His Tyr Trp Leu Gln Glu Leu Gln Lys Ser Ala Thr Ser Leu Ile  
 820 825 830  
 Asp Thr Phe Ala Val Ala Val Ala Asn Trp Thr Asp Asp Ile Ile Leu  
 835 840 845  
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 Arg Gln Gly Phe Glu Arg Ser Leu Leu  
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 <212> DNA  
 <213> Human Immunodeficiency Virus

<220>  
 <223> HIV-1 Group O (env10R) PCR reverse primer



<400> 62	
yctytagaga gtgtccatt	20
<210> 63	
<211> 19	
<212> DNA	
<213> Human Immunodeficiency Virus	
<220>	
<223> HIV-1 Group O (env15R) PCR reverse primer	
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gtgctwctg ctgcactta	19
<210> 64	
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<210> 65	
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ccttagaggc acttgaggt	19
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ccaragcagt aagtaacgc	19
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<210> 68
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<223> HIV-1 Group O (env12F) PCR forward primer

<400> 68
gamtytatgc acctcccatc 20

<210> 69
<211> 21
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<213> Human Immunodeficiency Virus

<220>
<223> HIV-1 Group O (env19F) PCR forward primer

<400> 69
gacataacta aatggttg g 21

<210> 70
<211> 23
<212> DNA
<213> Human Immunodeficiency Virus

<220>
<223> HIV-1 Group O (env2F) PCR forward primer

<400> 70
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<210> 71
<211> 20
<212> DNA
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<220>
<223> HIV-1 Group O (env9R) PCR reverse primer

<400> 71
atgccatgtg tacaagtaac 20

<210> 72
<211> 20
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<220>
<223> HIV-1 Group O (env8F) PCR forward primer

<400> 72
atacactatt gtgctccarc 20

<210> 73

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<211> 22
<212> DNA
<213> Human Immunodeficiency Virus

<220>
<223> HIV-1 Group O (env14R) PCR reverse primer

<400> 73
agttctccat atatctttca tr                                     22

<210> 74
<211> 22
<212> DNA
<213> Human Immunodeficiency Virus

<220>
<223> HIV-1 Group O (env13F) PCR forward primer

<400> 74
aacataactg gaatgatyct ac                                     22

<210> 75
<211> 18
<212> DNA
<213> Human Immunodeficiency Virus

<220>
<223> HIV-1 Group O (env21R) PCR reverse primer

<400> 75
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<210> 76
<211> 20
<212> DNA
<213> Human Immunodeficiency Virus

<220>
<223> HIV-1 Group O (env20F) PCR forward primer

<400> 76
attaggcagg gatatcaacc                                       20

<210> 77
<211> 18
<212> DNA
<213> Human Immunodeficiency Virus

<220>
<223> HIV-1 Group O (env25R) PCR reverse primer

<400> 77
cctactccag gtgcrcat                                         18

<210> 78
<211> 19
<212> DNA

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<213> Human Immunodeficiency Virus

<220>
<223> HIV-1 Group O (env4F) PCR forward primer

<400> 78
cawcacaagc ctgygttcc                                     19

<210> 79
<211> 20
<212> DNA
<213> Human Immunodeficiency Virus

<220>
<223> HIV-1 Group O (env5R) PCR reverse primer

<400> 79
atgtcttcvt gcatttgktc                                     20

<210> 80
<211> 20
<212> DNA
<213> Human Immunodeficiency Virus

<220>
<223> HIV-1 Group O (env10F) PCR forward primer

<400> 80
aatgggacac tctctaragr                                     20

<210> 81
<211> 22
<212> DNA
<213> Human Immunodeficiency Virus

<220>
<223> HIV-1 Group O (env11F) PCR forward primer

<400> 81
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<210> 82
<211> 22
<212> DNA
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<220>
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<400> 82
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<210> 83
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<212> DNA
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<220>
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<400> 83
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<210> 84
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<212> DNA
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<220>
<223> HIV-1 Group O (env19R) PCR reverse primer

<400> 84
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<210> 85
<211> 20
<212> DNA
<213> Human Immunodeficiency Virus

<220>
<223> HIV-1 Group O (env22F) PCR forward primer

<400> 85
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<210> 86
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<212> DNA
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<220>
<223> HIV-1 Group O (env24R) PCR reverse primer

<400> 86
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<210> 87
<211> 19
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<220>
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<400> 87
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<210> 88
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<220>
<223> PCR Primer 3634

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<400> 88  
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<210> 89  
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<220>  
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<400> 89  
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<210> 90  
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<213> Human Immunodeficiency Virus

<220>  
<223> Nucleotide sequence of the coding region of  
pGO-12CKS

<400> 90

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cgtaacacca ccaacatcaa ccagatctgg ggtaacctga cctggcagga atgggaccag 1980
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gaacagaacg aaaaaaaaaact gctggaactg gacgaatggg cttctctgtg gaactggctg 2100
gacatcacca aatggctgcg taacatccgt cagggctacc agccgctgtc cctgcagatc 2160
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<210> 91
<211> 736
<212> PRT
<213> Human Immunodeficiency Virus

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<220>
<223> Encodes recombinant protein pGO-12CKS

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20     25     30
Val Leu Glu Arg Ala Arg Glu Ser Gly Ala Glu Arg Ile Ile Val Ala
35     40     45
Thr Asp His Glu Asp Val Ala Arg Ala Val Glu Ala Ala Gly Gly Glu
50     55     60
Val Cys Met Thr Arg Ala Asp His Gln Ser Gly Thr Glu Arg Leu Ala
65     70     75     80
Glu Val Val Glu Lys Cys Ala Phe Ser Asp Asp Thr Val Ile Val Asn
85     90     95
Val Gln Gly Asp Glu Pro Met Ile Pro Ala Thr Ile Ile Arg Gln Val
100    105    110
Ala Asp Asn Leu Ala Gln Arg Gln Val Gly Met Ala Thr Leu Ala Val
115    120    125
Pro Ile His Asn Ala Glu Glu Ala Phe Asn Pro Asn Ala Val Lys Val
130    135    140
Val Leu Asp Ala Glu Gly Tyr Ala Leu Tyr Phe Ser Arg Ala Thr Ile
145    150    155    160
Pro Trp Asp Arg Asp Arg Phe Ala Glu Gly Leu Glu Thr Val Gly Asp
165    170    175
Asn Phe Leu Arg His Leu Gly Ile Tyr Gly Tyr Arg Ala Gly Phe Ile
180    185    190
Arg Arg Tyr Val Asn Trp Gln Pro Ser Pro Leu Glu His Ile Glu Met
195    200    205
Leu Glu Gln Leu Arg Val Leu Trp Tyr Gly Glu Lys Ile His Val Ala
210    215    220
Val Ala Gln Glu Val Pro Gly Thr Gly Val Asp Thr Pro Glu Asp Pro
225    230    235    240
Ser Thr Ala Leu Met Lys Ile Pro Gly Asp Pro Gly Gly Gly Asp Met
245    250    255
Arg Asp Asn Trp Arg Ser Glu Leu Tyr Lys Tyr Lys Val Val Lys Ile
260    265    270
Glu Pro Leu Gly Val Ala Pro Thr Lys Ala Lys Arg Arg Val Val Gln
275    280    285
Arg Glu Lys Arg Ala Val Gly Ile Gly Ala Leu Phe Leu Gly Phe Leu
290    295    300
Gly Ala Ala Gly Ser Thr Met Gly Ala Ala Ser Met Thr Leu Thr Val
305    310    315    320
Gln Ala Arg Gln Leu Leu Ser Gly Ile Val Gln Gln Gln Asn Asn Leu
325    330    335

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Leu Arg Ala Ile Glu Ala Gln Gln His Leu Leu Gln Leu Thr Val Trp  
 340 345 350  
 Gly Ile Lys Gln Leu Gln Ala Arg Ile Leu Ala Val Glu Arg Tyr Leu  
 355 360 365  
 Lys Asp Gln Gln Leu Leu Gly Ile Trp Gly Cys Ser Gly Lys Leu Ile  
 370 375 380  
 Cys Thr Thr Ala Val Pro Trp Asn Ala Ser Trp Ser Asn Lys Ser Leu  
 385 390 395 400  
 Glu Gln Ile Trp Asn Asn Met Thr Trp Met Glu Trp Asp Arg Glu Ile  
 405 410 415  
 Asn Asn Tyr Thr Ser Leu Ile His Ser Leu Ile Glu Glu Ser Gln Asn  
 420 425 430  
 Gln Gln Glu Lys Asn Glu Gln Glu Leu Leu Glu Leu Asp Lys Trp Val  
 435 440 445  
 Asn Arg Val Arg Gln Gly Tyr Ser Pro Leu Ser Phe Gln Thr His Leu  
 450 455 460  
 Pro Ile Pro Arg Gly Pro Asp Arg Pro Glu Gly Ile Glu Glu Glu Gly  
 465 470 475 480  
 Gly Glu Arg Asp Arg Asp Arg Ser Ile Arg Leu Val Ile Gly Gly Asp  
 485 490 495  
 Met Lys Asp Ile Trp Arg Asn Glu Leu Phe Lys Tyr Lys Val Val Arg  
 500 505 510  
 Val Lys Pro Phe Ser Val Ala Pro Thr Pro Ile Ala Arg Pro Val Ile  
 515 520 525  
 Gly Thr Gly Thr His Arg Glu Lys Arg Ala Val Gly Leu Gly Met Leu  
 530 535 540  
 Phe Leu Gly Val Leu Ser Ala Ala Gly Ser Thr Met Gly Ala Ala Ala  
 545 550 555 560  
 Thr Ala Leu Thr Val Gln Thr His Ser Val Ile Lys Gly Ile Val Gln  
 565 570 575  
 Gln Gln Asp Asn Leu Leu Arg Ala Ile Gln Ala Gln Gln Glu Leu Leu  
 580 585 590  
 Arg Leu Ser Val Trp Gly Ile Arg Gln Leu Arg Ala Arg Leu Leu Ala  
 595 600 605  
 Leu Glu Thr Leu Ile Gln Asn Gln Gln Leu Leu Asn Leu Trp Gly Cys  
 610 615 620  
 Lys Gly Arg Leu Ile Cys Tyr Thr Ser Val Lys Trp Asn Glu Thr Trp  
 625 630 635 640  
 Arg Asn Thr Thr Asn Ile Asn Gln Ile Trp Gly Asn Leu Thr Trp Gln  
 645 650 655  
 Glu Trp Asp Gln Gln Ile Asp Asn Val Ser Ser Thr Ile Tyr Glu Glu  
 660 665 670  
 Ile Gln Lys Ala Gln Val Gln Gln Glu Gln Asn Glu Lys Lys Leu Leu  
 675 680 685  
 Glu Leu Asp Glu Trp Ala Ser Leu Trp Asn Trp Leu Asp Ile Thr Lys  
 690 695 700  
 Trp Leu Arg Asn Ile Arg Gln Gly Tyr Gln Pro Leu Ser Leu Gln Ile  
 705 710 715 720  
 Pro Thr Arg Gln Gln Ser Glu Ala Glu Thr Pro Gly Arg Thr Gly Glu  
 725 730 735

&lt;210&gt; 92

&lt;211&gt; 2124

&lt;212&gt; DNA

&lt;213&gt; Human Immunodeficiency Virus

&lt;220&gt;



<223> Nucleotide sequence of the coding region of  
pGO-13CKS

<400> 92

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ttggttgata ttaacggcaa acccatgatt gttcatgttc ttgaacgcgc gcgtgaatca      120
ggtgccgagc gcatcatcgt ggcaaccgat catgaggatg ttgccgcgcg cgttgaagcc      180
gctggcggtg aagtatgtat gacgcgcgcc gatcatcagt caggaacaga acgtctggcg      240
gaagttgtcg aaaaatgcgc attcagcgac gacacggtga tcgttaatgt gcagggtgat      300
gaaccgatga tccctgcgac aatcattcgt caggttgctg ataacctcgc tcagcgtcag      360
gtgggtatgg cgactctggc ggtgcccaatc cacaatgcgg aagaagcgtt taaccggaat      420
gcggtgaaag tggttctcga cgctgaaggg tatgcactgt acttctctcg cgccaccatt      480
ccttgggata gtgatcgttt tgcagaaggc cttgaaaccg ttggcgataa cttctctcgt      540
catcttggtt tttatggcta ccgtgcaggc tttatccgtc gttacgtcaa ctggcagcca      600
agtccgtagg aacacatcga aatgttagag cagcttcgtg ttctgtggta cggcgaaaaa      660
atccatgttg ctggttgcct ca ggaagttcct ggcacaggtg tggatacccc tgaagatccg      720
tcgacagccc ttatgaagat ccccggcgac ccgggtgggtg gtgacatgcg tgacaactgg      780
cgttctgaac tgtacaaata caaagttggt aaaatcgaac cgctgggtgt tgctccgact      840
aaagctaaac gtcgtgttgt tcagcgtgaa aaacgcgcgc ttggtatcgg tgcactgttc      900
ctgggtttcc tgggtgctgc tgggttctacc atgggtgctg cttctatgac cctgactggt      960
caggcccgtc agcttctgtc tggtatcgtt cagcagcaga acaatctgct gcgtgctatc     1020
gaagctcagc agcatctgct gcaactgacc gtttggggta tcaaacagct tcaggctcgt     1080
atcctggctg ttgaacgtta cctgaaagac cagcagctgc tgggtatctg gggttgctct     1140
ggtaaactga tctgcactac tgctgttccg tggaaacgct cttggtctaa caaatctctg     1200
gaacagatct ggaacaacat gacttggatg gaatgggacc gtgaaatcaa caactacaca     1260
agcttgatcc actctctgat cgaagaaagc cagaaccagc agggaaaaaa cgaacaggaa     1320
cttctagaac tggacaaatg ggtaaacctg gttcgtcagg gttactctcc gctgtcttcc     1380
cagacccatc tgcgatccc gcgtgggtccg gaccgtccgg aaggatcga agaagaaggc     1440
ggcgaacgtg accgtgaccg ttccattcgt ctggtaatcg gtggtgacat gaaagacatc     1500
tggcgtaacg aactgttcaa atacaaagtt gttcgtgtta aaccgttctc tgttgctccg     1560
accccgatcg ctgctccggt tatcggtaact ggcaccacc gtgaaaaacg tgctgtaggt     1620
ctgggtatgc tgttctctgg cgttctgtct gcagcaggtt ccactatggg tgctgcagct     1680
accgctctga ccgtacagac ccactctgtt atcaaaggta tcgtacagca gcaggacaac     1740
ctgctgcgtg caatccaggc acagcaggaa ctgctgcgtc tgtctgtatg gggtatccgt     1800
cagctgcgtg ctgctctgct ggcaactggaa accctgatcc agaaccagca gctgctgaac     1860
ctgtggggct gcaaaggctg tctgatctgc tacacctcgg ttaaatggaa cgaaacctgg     1920
cgtaacacca ccaacatcaa ccagatctgg ggtaacctga cctggcagga atgggaccag     1980
cagatcgaca acgtttcttc caccatctac gaagaaatcc agaaagctca ggttcagcag     2040
gaacagaacg aaaaaaaact gctggaactg gacgaatggg cttctctgtg gaactggctg     2100
gacatcacca aatggctgta atag                                     2124

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<210> 93

<211> 706

<212> PRT

<213> Human Immunodeficiency Virus

<220>

<223> Encodes recombinant protein pGO-13CKS

<400> 93

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Met Ser Phe Val Val Ile Ile Pro Ala Arg Tyr Ala Ser Thr Arg Leu
 1             5             10             15
Pro Gly Lys Pro Leu Val Asp Ile Asn Gly Lys Pro Met Ile Val His
      20             25             30
Val Leu Glu Arg Ala Arg Glu Ser Gly Ala Glu Arg Ile Val Ala
      35             40             45
Thr Asp His Glu Asp Val Ala Arg Ala Val Glu Ala Ala Gly Gly Glu

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50		55		60
Val Cys Met Thr Arg	Ala Asp His Gln Ser Gly Thr Glu Arg Leu Ala			
65	70	75		80
Glu Val Val Glu Lys Cys Ala Phe Ser Asp Asp Thr Val Ile Val Asn				
	85	90		95
Val Gln Gly Asp Glu Pro Met Ile Pro Ala Thr Ile Ile Arg Gln Val				
	100	105		110
Ala Asp Asn Leu Ala Gln Arg Gln Val Gly Met Ala Thr Leu Ala Val				
	115	120		125
Pro Ile His Asn Ala Glu Glu Ala Phe Asn Pro Asn Ala Val Lys Val				
	130	135		140
Val Leu Asp Ala Glu Gly Tyr Ala Leu Tyr Phe Ser Arg Ala Thr Ile				
145	150	155		160
Pro Trp Asp Arg Asp Arg Phe Ala Glu Gly Leu Glu Thr Val Gly Asp				
	165	170		175
Asn Phe Leu Arg His Leu Gly Ile Tyr Gly Tyr Arg Ala Gly Phe Ile				
	180	185		190
Arg Arg Tyr Val Asn Trp Gln Pro Ser Pro Leu Glu His Ile Glu Met				
	195	200		205
Leu Glu Gln Leu Arg Val Leu Trp Tyr Gly Glu Lys Ile His Val Ala				
	210	215		220
Val Ala Gln Glu Val Pro Gly Thr Gly Val Asp Thr Pro Glu Asp Pro				
225	230	235		240
Ser Thr Ala Leu Met Lys Ile Pro Gly Asp Pro Gly Gly Gly Asp Met				
	245	250		255
Arg Asp Asn Trp Arg Ser Glu Leu Tyr Lys Tyr Lys Val Val Lys Ile				
	260	265		270
Glu Pro Leu Gly Val Ala Pro Thr Lys Ala Lys Arg Arg Val Val Gln				
	275	280		285
Arg Glu Lys Arg Ala Val Gly Ile Gly Ala Leu Phe Leu Gly Phe Leu				
	290	295		300
Gly Ala Ala Gly Ser Thr Met Gly Ala Ala Ser Met Thr Leu Thr Val				
305	310	315		320
Gln Ala Arg Gln Leu Leu Ser Gly Ile Val Gln Gln Gln Asn Asn Leu				
	325	330		335
Leu Arg Ala Ile Glu Ala Gln Gln His Leu Leu Gln Leu Thr Val Trp				
	340	345		350
Gly Ile Lys Gln Leu Gln Ala Arg Ile Leu Ala Val Glu Arg Tyr Leu				
	355	360		365
Lys Asp Gln Gln Leu Leu Gly Ile Trp Gly Cys Ser Gly Lys Leu Ile				
	370	375		380
Cys Thr Thr Ala Val Pro Trp Asn Ala Ser Trp Ser Asn Lys Ser Leu				
385	390	395		400
Glu Gln Ile Trp Asn Asn Met Thr Trp Met Glu Trp Asp Arg Glu Ile				
	405	410		415
Asn Asn Tyr Thr Ser Leu Ile His Ser Leu Ile Glu Glu Ser Gln Asn				
	420	425		430
Gln Gln Glu Lys Asn Glu Gln Glu Leu Leu Glu Leu Asp Lys Trp Val				
	435	440		445
Asn Arg Val Arg Gln Gly Tyr Ser Pro Leu Ser Phe Gln Thr His Leu				
	450	455		460
Pro Ile Pro Arg Gly Pro Asp Arg Pro Glu Gly Ile Glu Glu Glu Gly				
465	470	475		480
Gly Glu Arg Asp Arg Asp Arg Ser Ile Arg Leu Val Ile Gly Gly Asp				
	485	490		495
Met Lys Asp Ile Trp Arg Asn Glu Leu Phe Lys Tyr Lys Val Val Arg				
	500	505		510

Val	Lys	Pro	Phe	Ser	Val	Ala	Pro	Thr	Pro	Ile	Ala	Arg	Pro	Val	Ile
	515						520					525			
Gly	Thr	Gly	Thr	His	Arg	Glu	Lys	Arg	Ala	Val	Gly	Leu	Gly	Met	Leu
	530					535					540				
Phe	Leu	Gly	Val	Leu	Ser	Ala	Ala	Gly	Ser	Thr	Met	Gly	Ala	Ala	Ala
545					550					555					560
Thr	Ala	Leu	Thr	Val	Gln	Thr	His	Ser	Val	Ile	Lys	Gly	Ile	Val	Gln
				565					570					575	
Gln	Gln	Asp	Asn	Leu	Leu	Arg	Ala	Ile	Gln	Ala	Gln	Gln	Glu	Leu	Leu
			580					585					590		
Arg	Leu	Ser	Val	Trp	Gly	Ile	Arg	Gln	Leu	Arg	Ala	Arg	Leu	Leu	Ala
		595					600					605			
Leu	Glu	Thr	Leu	Ile	Gln	Asn	Gln	Gln	Leu	Leu	Asn	Leu	Trp	Gly	Cys
	610					615					620				
Lys	Gly	Arg	Leu	Ile	Cys	Tyr	Thr	Ser	Val	Lys	Trp	Asn	Glu	Thr	Trp
625					630					635					640
Arg	Asn	Thr	Thr	Asn	Ile	Asn	Gln	Ile	Trp	Gly	Asn	Leu	Thr	Trp	Gln
				645					650					655	
Glu	Trp	Asp	Gln	Gln	Ile	Asp	Asn	Val	Ser	Ser	Thr	Ile	Tyr	Glu	Glu
			660					665					670		
Ile	Gln	Lys	Ala	Gln	Val	Gln	Gln	Glu	Gln	Asn	Glu	Lys	Lys	Leu	Leu
		675					680					685			
Glu	Leu	Asp	Glu	Trp	Ala	Ser	Leu	Trp	Asn	Trp	Leu	Asp	Ile	Thr	Lys
	690					695					700				
Trp	Leu														
705															

<210> 94  
 <211> 1470  
 <212> DNA  
 <213> Human Immunodeficiency Virus

<220>  
 <223> Nucleotide sequence of the coding region of  
 pGO-14pL

<400> 94						
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accacccgtg	aaaaacgtgc	tgtaggtctg	ggatatgctgt	tcttgggcgt	tctgtctgca	180
gcagggttcca	ctatgggtgc	tgcagctacc	gctctgaccg	tacagaccca	ctctgttatc	240
aaaggtatcg	tacagcagca	ggacaacctg	ctgcgtgcaa	tccaggcaca	gcaggaaactg	300
ctgcgtctgt	ctgtatgggg	tatccgtcag	ctgcgtgctc	gtctgctggc	actggaaacc	360
ctgatccaga	accagcagct	gctgaacctg	tggggctgca	aaggctcgtc	gatctgctac	420
acctccgtta	aatggaacga	aacctggcgt	aacaccacca	acatcaacca	gatctgggggt	480
aacctgacct	ggcaggaatg	ggaccagcag	atcgacaacg	tttcttcac	catctacgaa	540
gaaatccaga	aagctcaggt	tcagcaggaa	cagaacgaaa	aaaaactgct	ggaactggac	600
gaatgggctt	ctctgtggaa	ctggctggac	atcaccaaat	ggctgcgtaa	catccgtcag	660
ggctaaccagc	cgctgtccct	gcagatcccg	accgctcagc	agtctgaagc	tgaaactccg	720
ggctcgtaaccg	gtgaagggtcc	gggtgggtgg	gacatgcgtg	acaactggcg	ttctgaactg	780
tacaaataca	aagttgttaa	aatcgaaccg	ctgggtgttg	ctccgactaa	agctaaacgt	840
cgtgttgttc	agcgtgaaaa	acgcgcctgt	ggatatcggtg	cactgttcct	gggtttcctg	900
gggtgctgctg	gttctaccat	gggtgctgct	tctatgacct	tgactgttca	ggcccgtcag	960
cttctgtctg	gtatcgttca	gcagcagaac	aatctgctgc	gtgctatcga	agctcagcag	1020
catctgctgc	aactgacctg	ttgggggtatc	aaacagcttc	aggctcgtat	cctggctgtt	1080
gaacgttacc	tgaaagacca	gcagctgctg	ggatatctggg	gttgctctgg	taaactgatc	1140
tgcactactg	ctgttccgtg	gaacgcttct	tggtctaaca	aatctctgga	acagatctgg	1200

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aacaacatga cttggatgga atgggaccgt gaaatcaaca actacacaag cttgatccac 1260
tctctgatcg aagaaagcca gaaccagcag gaaaaaaacg aacaggaact tctagaactg 1320
gacaaatggg ttaaccgtgt tcgtcagggt tactctccgc tgtctttcca gacccatctg 1380
ccgatcccg cgtggtccgga ccgtccggaa ggtatcgaag aagaaggcgg cgaacgtgac 1440
cgtgaccgtt ccattcgtct ggtataatag                                     1470

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<210> 95
<211> 488
<212> PRT
<213> Human Immunodeficiency Virus

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<220>
<223> Encodes recombinant protein pGO-14PL

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<400> 95
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Tyr Lys Val Val Arg Val Lys Pro Phe Ser Val Ala Pro Thr Pro Ile
      20           25           30
Ala Arg Pro Val Ile Gly Thr Gly Thr His Arg Glu Lys Arg Ala Val
      35           40           45
Gly Leu Gly Met Leu Phe Leu Gly Val Leu Ser Ala Ala Gly Ser Thr
      50           55           60
Met Gly Ala Ala Ala Thr Ala Leu Thr Val Gln Thr His Ser Val Ile
65           70           75           80
Lys Gly Ile Val Gln Gln Asp Asn Leu Arg Ala Ile Gln Ala
      85           90           95
Gln Gln Glu Leu Leu Arg Leu Ser Val Trp Gly Ile Arg Gln Leu Arg
      100          105          110
Ala Arg Leu Leu Ala Leu Glu Thr Leu Ile Gln Asn Gln Gln Leu Leu
      115          120          125
Asn Leu Trp Gly Cys Lys Gly Arg Leu Ile Cys Tyr Thr Ser Val Lys
      130          135          140
Trp Asn Glu Thr Trp Arg Asn Thr Thr Asn Ile Asn Gln Ile Trp Gly
145          150          155          160
Asn Leu Thr Trp Gln Glu Trp Asp Gln Gln Ile Asp Asn Val Ser Ser
      165          170          175
Thr Ile Tyr Glu Glu Ile Gln Lys Ala Gln Val Gln Gln Glu Gln Asn
      180          185          190
Glu Lys Lys Leu Leu Glu Leu Asp Glu Trp Ala Ser Leu Trp Asn Trp
      195          200          205
Leu Asp Ile Thr Lys Trp Leu Arg Asn Ile Arg Gln Gly Tyr Gln Pro
      210          215          220
Leu Ser Leu Gln Ile Pro Thr Arg Gln Gln Ser Glu Ala Glu Thr Pro
225          230          235          240
Gly Arg Thr Gly Glu Gly Pro Gly Gly Gly Asp Met Arg Asp Asn Trp
      245          250          255
Arg Ser Glu Leu Tyr Lys Tyr Lys Val Val Lys Ile Glu Pro Leu Gly
      260          265          270
Val Ala Pro Thr Lys Ala Lys Arg Arg Val Val Gln Arg Glu Lys Arg
      275          280          285
Ala Val Gly Ile Gly Ala Leu Phe Leu Gly Phe Leu Gly Ala Ala Gly
      290          295          300
Ser Thr Met Gly Ala Ala Ser Met Thr Leu Thr Val Gln Ala Arg Gln
305          310          315          320
Leu Leu Ser Gly Ile Val Gln Gln Gln Asn Asn Leu Leu Arg Ala Ile
      325          330          335

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Glu Ala Gln Gln His Leu Leu Gln Leu Thr Val Trp Gly Ile Lys Gln  
                   340                  345                  350  
 Leu Gln Ala Arg Ile Leu Ala Val Glu Arg Tyr Leu Lys Asp Gln Gln  
                   355                  360                  365  
 Leu Leu Gly Ile Trp Gly Cys Ser Gly Lys Leu Ile Cys Thr Thr Ala  
                   370                  375                  380  
 Val Pro Trp Asn Ala Ser Trp Ser Asn Lys Ser Leu Glu Gln Ile Trp  
 385                  390                  395                  400  
 Asn Asn Met Thr Trp Met Glu Trp Asp Arg Glu Ile Asn Asn Tyr Thr  
                   405                  410                  415  
 Ser Leu Ile His Ser Leu Ile Glu Glu Ser Gln Asn Gln Gln Glu Lys  
                   420                  425                  430  
 Asn Glu Gln Glu Leu Leu Glu Leu Asp Lys Trp Val Asn Arg Val Arg  
                   435                  440                  445  
 Gln Gly Tyr Ser Pro Leu Ser Phe Gln Thr His Leu Pro Ile Pro Arg  
                   450                  455                  460  
 Gly Pro Asp Arg Pro Glu Gly Ile Glu Glu Glu Gly Gly Glu Arg Asp  
 465                  470                  475                  480  
 Arg Asp Arg Ser Ile Arg Leu Val  
                   485

<210> 96

<211> 1584

<212> DNA

<213> Human Immunodeficiency Virus

<220>

<223> Nucleotide sequence of the coding region of  
pGO-15CKS

<400> 96

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ggtgccgagc	gcacatcgt	ggcaaccgat	catgaggatg	ttgcccgcgc	cgttgaagcc	180
gctggcggtg	aagtatgtat	gacgcgcgcc	gatcatcagt	caggaacaga	acgtctggcg	240
gaagttgtcg	aaaaatgcgc	attcagcgac	gacacgggtga	tcgttaatgt	gcagggtgat	300
gaaccgatga	tccctgcgac	aatcattcgt	caggttgctg	ataacctcgc	tcagcgtcag	360
gtgggtatga	cgactctggc	ggtgccaatc	cacaatgcgg	aagaagcgtt	taaccgcaat	420
gcggtgaaag	tggttctcga	cgctgaaggg	tatgcactgt	acttctctcg	cgccaccatt	480
ccttgggata	gtgatcgttt	tgcagaaggc	cttgaaccgc	ttggcgataa	cttctctcgt	540
catcttggtg	tttatggcta	ccgtgcaggc	tttatccgtc	gttacgtcaa	ctggcagcca	600
agtcggttag	aacacatcga	aatgttagag	cagcttcgtg	ttctgtggta	cggcgaaaaa	660
atccatgttg	ctggttgctca	ggaagttcct	ggcacagggtg	tggatacccc	tgaagatctc	720
gacccgtcga	cgaattctat	cggtgggtgac	atgaaagaca	tctggcgtaa	cgaactgttc	780
aaatacaaa	tggttcgtgt	taaaccgttc	tctgttgctc	cgaccccgat	cgctcgtccg	840
gttatcggtg	ctggcaccca	ccgtgaaaaa	cgtgctgtag	gtctgggtat	gctgttcctg	900
ggcgttctgt	ctgcagcagg	ttccactatg	ggtgctgcag	ctaccgctct	gaccgtacag	960
accactctg	ttatcaaagg	tatcgtacag	cagcaggaca	acctgctgcg	tgcaatccag	1020
gcacagcagg	aactgctgcg	tctgtctgta	tggggtatcc	gtcagctgcg	tgctcgtctg	1080
ctggcactgg	aaaccctgat	ccagaaccag	cagctgctga	acctgtgggg	ctgcaaaggt	1140
cgtctgatct	gctacacctc	cgtaaataatg	aacgaaacct	ggcgtaacac	caccaacatc	1200
aaccagatct	ggggtaacct	gacctggcag	gaatgggacc	agcagatcga	caacgtttct	1260
tccaccatct	acgaagaaat	ccagaaagct	caggttcagc	aggaacagaa	cgaaaaaaaaa	1320
ctgctggaac	tggacgaatg	ggcttctctg	tggaaactggc	tggacatcac	caaatggctg	1380
cgtaacatcc	gtcagggtca	ccagccgctg	tccctgcaga	tcccgaaccg	tcagcagtct	1440
gaagctgaaa	ctccgggtcg	taccggtgaa	ggtggcggtt	ctcgctgctg	ggctctggaa	1500
actctgattc	agaaccagca	actgcttaac	ctgtgggggtt	gcaagggccg	cctgatttgc	1560

tacacttctg taaaatggta atag

1584

<210> 97  
 <211> 526  
 <212> PRT  
 <213> Human Immunodeficiency Virus

<220>  
 <223> Encodes recombinant protein pGO-15CKS

<400> 97  
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 Pro Gly Lys Pro Leu Val Asp Ile Asn Gly Lys Pro Met Ile Val His  
 20 25 30  
 Val Leu Glu Arg Ala Arg Glu Ser Gly Ala Glu Arg Ile Ile Val Ala  
 35 40 45  
 Thr Asp His Glu Asp Val Ala Arg Ala Val Glu Ala Ala Gly Gly Glu  
 50 55 60  
 Val Cys Met Thr Arg Ala Asp His Gln Ser Gly Thr Glu Arg Leu Ala  
 65 70 75 80  
 Glu Val Val Glu Lys Cys Ala Phe Ser Asp Asp Thr Val Ile Val Asn  
 85 90 95  
 Val Gln Gly Asp Glu Pro Met Ile Pro Ala Thr Ile Ile Arg Gln Val  
 100 105 110  
 Ala Asp Asn Leu Ala Gln Arg Gln Val Gly Met Thr Thr Leu Ala Val  
 115 120 125  
 Pro Ile His Asn Ala Glu Glu Ala Phe Asn Pro Asn Ala Val Lys Val  
 130 135 140  
 Val Leu Asp Ala Glu Gly Tyr Ala Leu Tyr Phe Ser Arg Ala Thr Ile  
 145 150 155 160  
 Pro Trp Asp Arg Asp Arg Phe Ala Glu Gly Leu Glu Thr Val Gly Asp  
 165 170 175  
 Asn Phe Leu Arg His Leu Gly Ile Tyr Gly Tyr Arg Ala Gly Phe Ile  
 180 185 190  
 Arg Arg Tyr Val Asn Trp Gln Pro Ser Pro Leu Glu His Ile Glu Met  
 195 200 205  
 Leu Glu Gln Leu Arg Val Leu Trp Tyr Gly Glu Lys Ile His Val Ala  
 210 215 220  
 Val Ala Gln Glu Val Pro Gly Thr Gly Val Asp Thr Pro Glu Asp Leu  
 225 230 235 240  
 Asp Pro Ser Thr Asn Ser Ile Gly Gly Asp Met Lys Asp Ile Trp Arg  
 245 250 255  
 Asn Glu Leu Phe Lys Tyr Lys Val Val Arg Val Lys Pro Phe Ser Val  
 260 265 270  
 Ala Pro Thr Pro Ile Ala Arg Pro Val Ile Gly Thr Gly Thr His Arg  
 275 280 285  
 Glu Lys Arg Ala Val Gly Leu Gly Met Leu Phe Leu Gly Val Leu Ser  
 290 295 300  
 Ala Ala Gly Ser Thr Met Gly Ala Ala Ala Thr Ala Leu Thr Val Gln  
 305 310 315 320  
 Thr His Ser Val Ile Lys Gly Ile Val Gln Gln Gln Asp Asn Leu Leu  
 325 330 335  
 Arg Ala Ile Gln Ala Gln Gln Glu Leu Leu Arg Leu Ser Val Trp Gly  
 340 345 350  
 Ile Arg Gln Leu Arg Ala Arg Leu Leu Ala Leu Glu Thr Leu Ile Gln  
 355 360 365

Asn Gln Gln Leu Leu Asn Leu Trp Gly Cys Lys Gly Arg Leu Ile Cys  
 370 375 380  
 Tyr Thr Ser Val Lys Trp Asn Glu Thr Trp Arg Asn Thr Thr Asn Ile  
 385 390 395 400  
 Asn Gln Ile Trp Gly Asn Leu Thr Trp Gln Glu Trp Asp Gln Gln Ile  
 405 410 415  
 Asp Asn Val Ser Ser Thr Ile Tyr Glu Glu Ile Gln Lys Ala Gln Val  
 420 425 430  
 Gln Gln Glu Gln Asn Glu Lys Lys Leu Leu Glu Leu Asp Glu Trp Ala  
 435 440 445  
 Ser Leu Trp Asn Trp Leu Asp Ile Thr Lys Trp Leu Arg Asn Ile Arg  
 450 455 460  
 Gln Gly Tyr Gln Pro Leu Ser Leu Gln Ile Pro Thr Arg Gln Gln Ser  
 465 470 475 480  
 Glu Ala Glu Thr Pro Gly Arg Thr Gly Glu Gly Gly Gly Ser Arg Leu  
 485 490 495  
 Leu Ala Leu Glu Thr Leu Ile Gln Asn Gln Gln Leu Leu Asn Leu Trp  
 500 505 510  
 Gly Cys Lys Gly Arg Leu Ile Cys Tyr Thr Ser Val Lys Trp  
 515 520 525

<210> 98  
 <211> 60  
 <212> DNA  
 <213> Human Immunodeficiency Virus

<220>  
 <223> Synthetic oligonucleotide (pTB319+A)

<400> 98  
 gaccgtccgg aaggtatcga agaagaaggc ggcgaacgtg accgtgaccg ttccattcgt 60

<210> 99  
 <211> 53  
 <212> DNA  
 <213> Human Immunodeficiency Virus

<220>  
 <223> Synthetic oligonucleotide (pTB319+B)

<400> 99  
 atggaacggg cacgggtcacg ttgcgcgcct tcttcttcga taccttccgg acg 53

<210> 100  
 <211> 20  
 <212> DNA  
 <213> Human Immunodeficiency Virus

<220>  
 <223> Sequencing primer pTB-S4

<400> 100  
 atctctggaa cagatctgga 20

<210> 101  
 <211> 20  
 <212> DNA

<213> Human Immunodeficiency Virus  
<220>  
<223> Sequencing primer pTB-S7  
  
<400> 101  
agtactgaag cagattccac 20  
  
<210> 102  
<211> 19  
<212> DNA  
<213> Human Immunodeficiency Virus  
  
<220>  
<223> Sequencing primer pTB-S1  
  
<400> 102  
ccgtcgttac gtcaactgg 19  
  
<210> 103  
<211> 18  
<212> DNA  
<213> Human Immunodeficiency Virus  
  
<220>  
<223> Sequencing primer pTB-S2  
  
<400> 103  
cgccgttggt atcggtgc 18  
  
<210> 104  
<211> 19  
<212> DNA  
<213> Human Immunodeficiency Virus  
  
<220>  
<223> Sequencing primer pTB-S3  
  
<400> 104  
taccagacag aagctgacg 19  
  
<210> 105  
<211> 20  
<212> DNA  
<213> Human Immunodeficiency Virus  
  
<220>  
<223> Sequencing primer pTB-S5  
  
<400> 105  
cttcgatcag agagtggatc 20  
  
<210> 106  
<211> 20  
<212> DNA  
<213> Human Immunodeficiency Virus



&lt;220&gt;

&lt;223&gt; Sequencing primer pTB-S6

&lt;400&gt; 106

gacgatctgc gttctctgtg

20

&lt;210&gt; 107

&lt;211&gt; 1800

&lt;212&gt; DNA

&lt;213&gt; Human Immunodeficiency Virus

&lt;220&gt;

<223> Nucleotide sequence of the coding region of  
pGM-1CKS

&lt;400&gt; 107

atgagttttg	tggtcattat	tccccgcgcg	tacgcgtcga	cgcgtctgcc	cggtaaacca	60
ttggttgata	ttaacggcaa	acccatgatt	gttcatgttc	ttgaacgcgc	gcgtgaatca	120
ggtgccgagc	gcactccgt	ggcaaccgat	catgaggatg	ttgcccgcgc	cgttgaagcc	180
gctggcgggtg	aagtatgtat	gacgcgcgcg	gatcatcagt	caggaacaga	acgtctggcg	240
gaagttgtcg	aaaaatgcgc	attcagcgac	gacacgggtga	tcgttaatgt	gcagggtgat	300
gaaccgatga	tccctgcgac	aatcattcgt	caggttgctg	ataacctcgc	tcagcgtcag	360
gtgggtatgg	cgactctggc	ggtgccaatc	cacaatgcgg	aagaagcgtt	taaccgcaat	420
gcggtgaaag	tggttctcga	cgctgaagg	tatgcactgt	acttctctcg	cgccaccatt	480
ccttgggatc	gtgatcgttt	tgcagaaggc	cttgaaaccg	ttggcgataa	cttctctcgt	540
catcttggtg	tttatggcta	ccgtgcaggc	tttatccgtc	gttacgtcaa	ctggcagcca	600
agtcctgttag	aacacatcga	aatgttagag	cagcttcgtg	ttctgtggta	cggcgaaaaa	660
atccatgttg	ctgttgctca	ggaagttcct	ggcacagggtg	tggatacccc	tgaagatccg	720
tcgacagccc	ttatgaagat	ccccggcgac	ccgggtgggtg	gtgacatgcg	tgacaactgg	780
cgttctgaac	tgtacaaata	caaagttggt	aaaatcgaac	cgctgggtgt	tgctccgact	840
aaagctaaac	gtcgtgttgt	tcagcgtgaa	aaacgcgcgc	ttggtatcgg	tgcactgttc	900
ctgggtttcc	tgggtgctgc	tggttctacc	atgggtgctg	cttctatgac	cctgactgtt	960
caggcccgtc	agcttctgtc	tggtatcggt	cagcagcaga	acaatctgct	gcgtgctatc	1020
gaagctcagc	agcatctgct	gcaactgacc	gtttggggta	tcaaacagct	tcaggctcgt	1080
atcctggctg	ttgaacgtta	cctgaaagac	cagcagctgc	tgggtatctg	gggttgctct	1140
ggtaaaactga	tctgcactac	tgctgttccg	tggaaacgctt	cttgggtctaa	caaactctctg	1200
gaacagatct	ggaacaacat	gacttggatg	gaatgggacc	gtgaaatcaa	caactacaca	1260
agcttgatcc	actctctgat	cgaagaaagc	cagaaccagc	aggaaaaaaa	cgaacaggaa	1320
cttctagaac	tggacaaaatg	ggttaaccgt	gttcgtcagg	gttactctcc	gctgtctttc	1380
cagacccatc	tgccgatccc	gcgtgggtccg	gaccgtccgg	aaggatcga	agaagaaggc	1440
ggcgaacgtg	accgtgaccg	ttccattcgt	ctggtaaaccg	gttctctggc	tctgatctgg	1500
gacgatctgc	gttctctgtg	cctgttctct	taccaccgtc	tgcgtgatct	gctgctgatc	1560
gtgactcgta	tcgttgaact	gctcggccgt	cgtgggttggg	aagctctgaa	atactgggtg	1620
aatctgcttc	agtactggtc	ccaggaactg	aaaaactctg	ctgtttctct	gctgaacgct	1680
actgctatcg	ctggtgctga	aggcaccgat	cgtgttatcg	aagtagttca	gggtgcttac	1740
cgtgctatcc	gtcacattcc	gcgtcgtatc	cgtcagggtc	tggaacgtat	cctgctgtaa	1800

&lt;210&gt; 108

&lt;211&gt; 599

&lt;212&gt; PRT

&lt;213&gt; Human Immunodeficiency Virus

&lt;220&gt;

&lt;223&gt; Encodes recombinant protein pGM-1CKS

&lt;400&gt; 108

Met Ser Phe Val Val Ile Ile Pro Ala Arg Tyr Ala Ser Thr Arg Leu

1	5	10	15
Pro Gly Lys	Pro Leu Val Asp Ile	Asn Gly Lys Pro Met	Ile Val His
	20	25	30
Val Leu Glu Arg	Ala Arg Glu Ser	Gly Ala Glu Arg	Ile Ile Val Ala
	35	40	45
Thr Asp His Glu Asp	Val Ala Arg Ala	Val Glu Ala Ala	Gly Gly Glu
	50	55	60
Val Cys Met Thr Arg	Ala Asp His Gln Ser	Gly Thr Glu Arg	Leu Ala
65	70	75	80
Glu Val Val Glu Lys	Cys Ala Phe Ser	Asp Thr Val Ile	Val Asn
	85	90	95
Val Gln Gly Asp Glu	Pro Met Ile Pro	Ala Thr Ile Ile	Arg Gln Val
	100	105	110
Ala Asp Asn Leu Ala	Gln Arg Gln Val	Gly Met Ala Thr	Leu Ala Val
	115	120	125
Pro Ile His Asn Ala	Glu Glu Ala Phe	Asn Pro Asn Ala	Val Lys Val
	130	135	140
Val Leu Asp Ala Glu	Gly Tyr Ala Leu	Tyr Phe Ser Arg	Ala Thr Ile
145	150	155	160
Pro Trp Asp Arg Asp	Arg Phe Ala Glu	Gly Leu Glu Thr	Val Gly Asp
	165	170	175
Asn Phe Leu Arg His	Leu Gly Ile Tyr	Gly Tyr Arg Ala	Gly Phe Ile
	180	185	190
Arg Arg Tyr Val Asn	Trp Gln Pro Ser	Pro Leu Glu His	Ile Glu Met
	195	200	205
Leu Glu Gln Leu Arg	Val Leu Trp Tyr	Gly Glu Lys Ile	His Val Ala
	210	215	220
Val Ala Gln Glu Val	Pro Gly Thr Gly	Val Asp Thr Pro	Glu Asp Pro
225	230	235	240
Ser Thr Ala Leu Met	Lys Ile Pro Gly	Asp Pro Gly Gly	Gly Asp Met
	245	250	255
Arg Asp Asn Trp Arg	Ser Glu Leu Tyr	Lys Tyr Lys Val	Val Lys Ile
	260	265	270
Glu Pro Leu Gly Val	Ala Pro Thr Lys	Ala Lys Arg Arg	Val Val Gln
	275	280	285
Arg Glu Lys Arg Ala	Val Gly Ile Gly	Ala Leu Phe Leu	Gly Phe Leu
	290	295	300
Gly Ala Ala Gly Ser	Thr Met Gly Ala	Ala Ser Met Thr	Leu Thr Val
305	310	315	320
Gln Ala Arg Gln Leu	Leu Ser Gly Ile	Val Gln Gln Gln	Asn Asn Leu
	325	330	335
Leu Arg Ala Ile Glu	Ala Gln Gln His	Leu Leu Gln Leu	Thr Val Trp
	340	345	350
Gly Ile Lys Gln Leu	Gln Ala Arg Ile	Leu Ala Val Glu	Arg Tyr Leu
	355	360	365
Lys Asp Gln Gln Leu	Leu Gly Ile Trp	Gly Cys Ser Gly	Lys Leu Ile
	370	375	380
Cys Thr Thr Ala Val	Pro Trp Asn Ala	Ser Trp Ser Asn	Lys Ser Leu
385	390	395	400
Glu Gln Ile Trp Asn	Asn Met Thr Trp	Met Glu Trp Asp	Arg Glu Ile
	405	410	415
Asn Asn Tyr Thr Ser	Leu Ile His Ser	Leu Ile Glu Glu	Ser Gln Asn
	420	425	430
Gln Gln Glu Lys Asn	Glu Gln Glu Leu	Leu Glu Leu Asp	Lys Trp Val
	435	440	445
Asn Arg Val Arg Gln	Gly Tyr Ser Pro	Leu Ser Phe Gln	Thr His Leu
450	455	460	

Pro Ile Pro Arg Gly Pro Asp Arg Pro Glu Gly Ile Glu Glu Glu Gly  
 465 470 475 480  
 Gly Glu Arg Asp Arg Asp Arg Ser Ile Arg Leu Val Asn Gly Ser Leu  
 485 490 495  
 Ala Leu Ile Trp Asp Asp Leu Arg Ser Leu Cys Leu Phe Ser Tyr His  
 500 505 510  
 Arg Leu Arg Asp Leu Leu Leu Ile Val Thr Arg Ile Val Glu Leu Leu  
 515 520 525  
 Gly Arg Arg Gly Trp Glu Ala Leu Lys Tyr Trp Trp Asn Leu Leu Gln  
 530 535 540  
 Tyr Trp Ser Gln Glu Leu Lys Asn Ser Ala Val Ser Leu Leu Asn Ala  
 545 550 555 560  
 Thr Ala Ile Ala Val Ala Glu Gly Thr Asp Arg Val Ile Glu Val Val  
 565 570 575  
 Gln Gly Ala Tyr Arg Ala Ile Arg His Ile Pro Arg Arg Ile Arg Gln  
 580 585 590  
 Gly Leu Glu Arg Ile Leu Leu  
 595

<210> 109  
 <211> 47  
 <212> DNA  
 <213> Human Immunodeficiency Virus

<220>  
 <223> PCR primer pTB/0-5'

<400> 109  
 gactacttgt agccattcgt ctggtaatcg gtgggtgacat gaaagac

47

<210> 110  
 <211> 33  
 <212> DNA  
 <213> Human Immunodeficiency Virus

<220>  
 <223> Sequencing primer pGO-9/Kpn

<400> 110  
 acaatgatgg tacctattat tcaccggtac gac

33

<210> 111  
 <211> 18  
 <212> DNA  
 <213> Human Immunodeficiency Virus

<220>  
 <223> Sequencing primer 3962

<400> 111  
 attggttgat attaacgg

18

<210> 112  
 <211> 20  
 <212> DNA  
 <213> Human Immunodeficiency Virus

<220>  
<223> Sequencing primer Syl20-S1

<400> 112  
tcggtggtga catgaaagac 20

<210> 113  
<211> 20  
<212> DNA  
<213> Human Immunodeficiency Virus

<220>  
<223> Sequencing primer 3965

<400> 113  
aaaataggcg tatcacgagg 20

<210> 114  
<211> 40  
<212> DNA  
<213> Human Immunodeficiency Virus

<220>  
<223> PCR primer pGO-8/Kpn

<400> 114  
acaatgatgg tacctattac agccatttgg tgatgtccag 40

<210> 115  
<211> 46  
<212> DNA  
<213> Human Immunodeficiency Virus

<220>  
<223> PCR primer pTB/Age5'

<400> 115  
taacgatcag ctaccggtga aggtccgggt ggtggtgaca tgcgtg 46

<210> 116  
<211> 38  
<212> DNA  
<213> Human Immunodeficiency Virus

<220>  
<223> PCR primer pGO/B-3'

<400> 116  
caagatggat cctattatac cagacgaatg gaacggtc 38

<210> 117  
<211> 122  
<212> DNA  
<213> Human Immunodeficiency Virus

<220>  
<223> Synthetic oligonucleotide (synIDR#2-A)

<400> 117  
 ccggtgaagg tggcgggttct cgctgctgg ctctggaaac tctgattcag aaccagcaac 60  
 tgcttaacct gtgggggttgc aagggccgcc tgatttgcta cacttctgta aaatggtaat 120  
 ag 122

<210> 118  
 <211> 122  
 <212> DNA  
 <213> Human Immunodeficiency Virus

<220>  
 <223> Synthetic oligonucleotide (synIDR#2-B)

<400> 118  
 gatcctatta ccattttaca gaagtgtagc aaatcaggcg gcccttgcaa cccacaggt 60  
 taagcagttg ctggttctga atcagagttt ccagagccag caggcgagaa ccgccacctt 120  
 ca 122

<210> 119  
 <211> 849  
 <212> DNA  
 <213> Human Immunodeficiency Virus

<220>  
 <223> Nucleotide sequence of the coding region of  
 pGO-15PL

<400> 119  
 atgatcgggtg gtgacatgaa agacatctgg cgtaacgaac tgttcaaata caaagttgtt 60  
 cgtgttaaacc cgttctctgt tgctccgacc ccgatcgctc gtccgggttat cgggtactggc 120  
 acccaccgtg aaaaacgtgc tgtaggtctg ggtatgctgt tcttgggcgt tctgtctgca 180  
 gcaggttcca ctatgggtgc tgcagctacc gctctgaccg tacagaccca ctctgttatc 240  
 aaaggtatcg tacagcagca ggacaacctg ctgctgcaaa tccaggcaca gcaggaactg 300  
 ctgctgtctgt ctgtatgggg tatccgtcag ctgctgtctc gtctgtctggc actggaaacc 360  
 ctgatccaga accagcagct gctgaacctg tggggctgca aaggtcgtct gatctgtctac 420  
 acctccgtta aatggaacga aacctggcgt aacaccacca acatcaacca gatctggggt 480  
 aacctgacct ggcaggaatg ggaccagcag atcgacaacg tttcttccac catctacgaa 540  
 gaaatccaga aagctcaggt tcagcaggaa cagaacgaaa aaaaactgct ggaactggac 600  
 gaatgggctt ctctgtggaa ctggctggac atcacaaat ggctgcgtaa catccgtcag 660  
 ggctaccagc cgctgtccct gcagatcccg acccgtcagc agtctgaagc tgaaactccg 720  
 ggtcgtaccg gtgaagggtg cggttctcgc ctgctggctc tggaaactct gattcagaac 780  
 cagcaactgc ttaacctgtg gggttgcaag ggccgcctga tttgctacac ttctgtaaaa 840  
 tggtaatag 849

<210> 120  
 <211> 281  
 <212> PRT  
 <213> Human Immunodeficiency Virus

<220>  
 <223> Encodes recombinant protein pGO-15PL

<400> 120  
 Met Ile Gly Gly Asp Met Lys Asp Ile Trp Arg Asn Glu Leu Phe Lys  
 1 5 10 15  
 Tyr Lys Val Val Arg Val Lys Pro Phe Ser Val Ala Pro Thr Pro Ile

			20					25					30				
Ala	Arg	Pro	Val	Ile	Gly	Thr	Gly	Thr	His	Arg	Glu	Lys	Arg	Ala	Val		
		35					40					45					
Gly	Leu	Gly	Met	Leu	Phe	Leu	Gly	Val	Leu	Ser	Ala	Ala	Gly	Ser	Thr		
	50					55					60						
Met	Gly	Ala	Ala	Ala	Thr	Ala	Leu	Thr	Val	Gln	Thr	His	Ser	Val	Ile		
65					70					75					80		
Lys	Gly	Ile	Val	Gln	Gln	Asp	Asn	Leu	Arg	Ala	Ile	Gln	Ala				
			85					90						95			
Gln	Gln	Glu	Leu	Leu	Arg	Leu	Ser	Val	Trp	Gly	Ile	Arg	Gln	Leu	Arg		
			100					105					110				
Ala	Arg	Leu	Leu	Ala	Leu	Glu	Thr	Leu	Ile	Gln	Asn	Gln	Gln	Leu	Leu		
		115					120					125					
Asn	Leu	Trp	Gly	Cys	Lys	Gly	Arg	Leu	Ile	Cys	Tyr	Thr	Ser	Val	Lys		
	130					135					140						
Trp	Asn	Glu	Thr	Trp	Arg	Asn	Thr	Thr	Asn	Ile	Asn	Gln	Ile	Trp	Gly		
145					150					155					160		
Asn	Leu	Thr	Trp	Gln	Glu	Trp	Asp	Gln	Gln	Ile	Asp	Asn	Val	Ser	Ser		
			165					170						175			
Thr	Ile	Tyr	Glu	Glu	Ile	Gln	Lys	Ala	Gln	Val	Gln	Gln	Glu	Gln	Asn		
		180						185					190				
Glu	Lys	Lys	Leu	Leu	Glu	Leu	Asp	Glu	Trp	Ala	Ser	Leu	Trp	Asn	Trp		
	195						200					205					
Leu	Asp	Ile	Thr	Lys	Trp	Leu	Arg	Asn	Ile	Arg	Gln	Gly	Tyr	Gln	Pro		
	210					215					220						
Leu	Ser	Leu	Gln	Ile	Pro	Thr	Arg	Gln	Gln	Ser	Glu	Ala	Glu	Thr	Pro		
225					230					235					240		
Gly	Arg	Thr	Gly	Glu	Gly	Gly	Gly	Ser	Arg	Leu	Leu	Ala	Leu	Glu	Thr		
			245					250						255			
Leu	Ile	Gln	Asn	Gln	Gln	Leu	Leu	Asn	Leu	Trp	Gly	Cys	Lys	Gly	Arg		
		260						265					270				
Leu	Ile	Cys	Tyr	Thr	Ser	Val	Lys	Trp									
	275						280										

<210> 121  
 <211> 22  
 <212> DNA  
 <213> Human Immunodeficiency Virus

<220>  
 <223> PCR Primer 63168

<400> 121  
 acgttcgccg ccttcttctt cg